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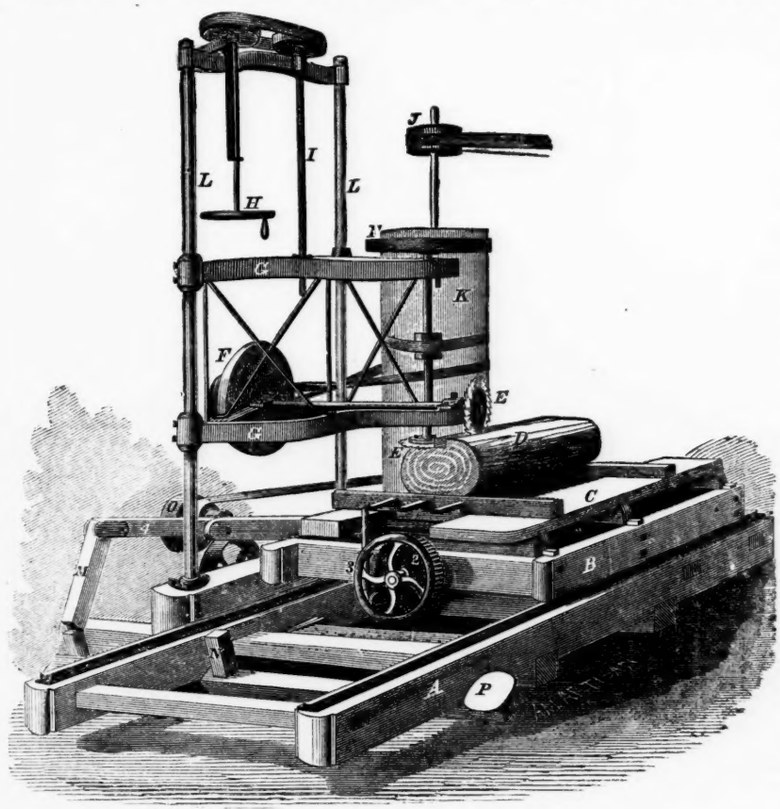
SAWING MACHINE.

In our mining districts the want of a good machine for sawing timber for mines, mills, tramways, houses, etc., and planking for sluices, is often felt; and one that can at the same time saw small stuff of all kinds from the log. Such a machine is herewith illustrated. With it logs of any kind or size, up to three feet in diameter, being cut the required length, can be sawed into handle stuff of any description, plow stuff, pickets, window slats, etc., at the rate of 8 to 15 per minute, and faster than the same can be slit from plank or boards. Very small timber can be worked up by it to very great advantage, equally as well as larger wood. The saw being thin, and the whole log being worked up (leaving no more than ⅛ inch slab) a great saving of timber is made. As a lath machine it is particularly good. The log, D, being placed upon the double carriage, C B, the saw frame, G G, sliding upon guides L and L, being lowered or raised to the height desired by the hand wheel, H, operating the feed-screw, I, the power is applied to the drum, K, by the driving-pulley, J. This drum drives the saws, E and E, with balance wheels, F and F. A cone pulley (not shown) on drum shaft, below the drum, drives the feed-pulleys, O, hung in adjustible or moveable frames, 4, and operates friction pulleys (not shown) so arranged in such frame, 4, that alternate reverse motion is given to such carriage by the action of a knee joint, M, operated by carriage, B, upon the dog, N. This knee joint may also be controlled by treadle, P, which is used in starting and stopping carriage, B. The carriage, B, running on an iron track upon the stationary main-frame, A, is carried backward and forward under the saws by segments, and a pinion or shaft operated by such friction pulleys. The upper carriage, C, works transversely upon the carriage, B, by segments at each end of same, operated by pinions upon shaft running lengthwise of carriage, B, which shaft is turned so as to set the log for the required size each time carriage, B, runs back by the self-acting lever and ratchet wheel, 2, or the self-acting lever may be detached, and carriage, C, set over by hand-wheel, 3, whenever desired. After a course is sawed across the top of the log, the carriage, C, is run back for another course by the hand-wheel, 3. Means are provided for adjusting the saws as they wear away in using. This machine was patented on May 26, 1866, by Branch W. Durkee and J. Burns West, of Lakeville, N. Y. Johnson & Co., of Geneseo, Livingston Co., N. Y., are the sole manufacturers for the United States.



DURKEE'S AUTOMATIC SAWING MACHINE.

"The Testimony of the Rocks."

Hollister, of Colorado, has been to the Boston Museum of Natural History, and thus records his impressions: I hadn't time to more than enter, turn twice round, and go out, but I there saw the slabs and slates spoken of above, saw and *believed*. The talk of geologists about the imprint of rain drops and wave marks on the sands, and then that sand becoming rock and so preserving a history, albeit a negative one, of the animated life of those gray old times, I will tell you in confidence I always thought to be bosh. But here before my eyes were rock-tracks as of birds walking, of all sizes, and as much as an inch in depth; little rock-flecks that made me involuntarily look out to see if it was raining, and rock-ripples that brought to my ears the laugh of the pre-Adamite waves. I seemed to be in the presence of past cycles of ages beside which recorded time is a mere point. It is disagreeable to think that this supremely beautiful world existed before and without man; that granted, the inference is easy that it may exist and be yet more lovely after he shall have passed away, and perhaps not have left more signs than is engraved on these slabs. There were shelves of granite from Maine, scratched and underscored by those inexplicable glaciers which so puzzle the wits of geologists. There were slabs of limestone from New Jersey with all sorts of tracks from an inch to two or three inches in depth. Up-stairs there was the skeleton of a megatherium twenty feet long, standing up as if eating from a great elm stump; and the cast shell of a turtle as big as a pile of quartz; and a million other curiosities in fossils, minerals, birds, beasts, reptiles, and fishes.

Discoveries in Steel.

One grand improvement which science must achieve, says a London journal, is the adaptation of all our ordinary irons to the Bessemer process, and their conversion direct from the blast furnace, as has been practised already in Sweden. Less than thirty years ago no steel could be made from English irons; but Josiah Marshall Heath, by a little mixture of black oxide of manganese and coal tar (which was the form in which his invention of "carburet of manganese" was finally adopted), solved the whole difficulty. Is it within the range of chemistry to equally adapt sulphurous or phosphorized iron to the Bessemer process? Whenever this is done, it may be said that hundreds of millions sterling have been added to the wealth of this country. Such a discovery would be followed by the greatest revolution in the iron manufacture ever witnessed. Bessemer metal, too, should receive some mechanical treatment while in the melted state, whether by pressure, agitation, rolling or otherwise. Mr. Bessemer himself has made excellent samples of tin-plate iron which would bear the great test—that of doubling first one way and then across the other way, like the sheets of this paper before it is cut, and that without cracking at the corner; and our readers may be astonished to learn that he made these plates merely by pouring the contents of a crucible of melted steel between a small pair of rolls, and without any intermediate working whatever. Depend upon it, the limits of metallurgical discovery have not been reached yet.

Fire-Damp.

At the last meeting of the Polytechnic Branch of the American Institute, Professor Tillman read an interesting statement on fire-damp as follows: The cause of explosions in coal mines so disastrous in Great

Britain, is the accidental ignition of air containing light carburetted hydrogen, or marsh gas, which the miners call fire-damp—a gaseous compound consisting of twelve parts by weight of carbon, and four parts of hydrogen. In the process of mining, crevices are opened containing this gas which, by the law of diffusion, soon becomes equally mixed with the whole air of the mine. It is well known that diaphragms of animal matter posses the property of absorbing this gas by endosmosis. An empty bladder, for instance, suspended in a mixture of air and marsh gas, will soon be found partially filled with marsh gas. Unglazed earthenware may be substituted for the animal membrane. Mr. G. F. Ansell, of the Royal Mint, London, first applied the principle of osmosis, in a very ingenious instrument for the detection and quantative estimate of explosive gasses, which can be used in mines to give warning of the presence of marsh gas in such quantities as to form an explosive mixture. For certain reasons, which need not be explained, the diffusion of gases is not always equal. Several of these instruments, at different heights in the same mine, show that there may be a much larger percentage of marsh gas at the top than at the bottom of the gallery. Mr. Ansell has lately improved the apparatus constructed by him in 1865. It now consists of an iron funnel, provided with an iron U-tube, the end of which is closed by a piece of glass tube fixed in brass, to which one pole of a battery is attached; the upper part of this glass tube carries a brass collar, through which passes an adjusting screw, to the lower end of which is fastened a piece of copper wire with a platinum point. Mercury is poured into the iron funnel till it rises in the glass tube to a covenient height. This mercury is allowed to find its level by opening a valve when setting the instrument. The top of the funnel is closed by a septum, consisting of Wedgewood's ware, secured in its place by common sealing wax. The other end of the battery wire is connected with the instrument. When the apparatus is placed in a mixture of common air and marsh gas, the latter passes through the septum more rapidly than the air within the apparatus can escape, according to the well-known law that gases diffuse into one another in the inverse proportion of the square roots of their specific gravities. The accumulation of marsh gas within the septum, therefore, increases the pressure on the mercury in the funnel, and thus raises it in the leg of the U-tube until it touches the platinum point, when electric communication is established, and the alarm is given by means of a bell having wheel work for moving the clapper, which is set in motion the instant the circuit is closed. Mr. Ansell has found his instrument give warning in four seconds, if the mixture of gas is still below the point of explosion, but, by adjusting the point so that there is not more than the thickness of a shilling between it and the mercury, a dangerous irruption of gas may make itself known in two seconds. Although this apparatus is said to be efficient, it has not yet been generally adopted. Some Superintendents of mines assert that the flame of the safety-lamp becomes dull in the presence of marsh-gas, and thus warns them of danger, but the numerous accidents in mines prove that such warning is disregarded. A French savant has suggested the use of Ruhmkorff's induction apparatus for illuminating the galleries of mines, by which ordinary lights would be dispensed with and all danger of explosion avoided.

Oreide.

There is a new metallic alloy, extensively used in this country as a substitute for gold. Stores have sprung into existence all over the country for the sale of it, and newspapers contain flaming advertisements of a "full set of jewelry for one dollar, being the stock of a large manufacturer, (or merchant.) who is obliged to dispose of his goods on account of the panic." It is a French discovery, and is called by the French "Gold Oreide." It is manufactured to a large extent in Waterbury, Conn. It bears a very close resemblance to gold in color, density, and fineness of grain; so closely that it deceives every one but practical dealers or experts. Its component parts consist of pure copper, 100 parts; zinc, or (preferably) tin, 17 parts; magnesia, 6 parts; sal ammoniac, 3.6 parts; quicklime, 1.8 parts; tartar of commerce, 9 parts; all mixed as follows: the copper is first melted, then the magnesia, sal ammonac, lime, and tartar in powder, are added little by little; the crucible is now briskly stirred for about half an hour, so as to mix thoroughly; and then the zinc is added in small grains by throwing it on the surface and stirring it until it is entirely fused; the crucible is then covered, and the fusion maintained for about thirty-five minutes. The surface is then skimmed and the alloy is ready for casting. The fineness of grain in this alloy gives to those objects of art composed of it a delicacy and purity of detail that cannot be obtained from bronze. The alloy is essentially ductile and malleable, and can be cast, rolled, drawn, stamped, chased, beaten into a powder, or leaves, or treated in any other way the artizan may desire. The discovery of this new alloy is really wonderful, and its use will have a tendency to place within the reach of all, the useful, ornamental and higher products of art. An immense number and amount of articles are manufactured out of this alloy and sold South and West, and none but excellent judges can tell it from old.—*Journal of Applied Chemistry.*

Mining Summary.

GOLD AND SILVER.

Nevada.

The Comstock.—The Virginia City *Trespass*, (edited by Humboldt *Register* Forbes—a live man), gives the following review for the week ending Feb. 16: During the past week a large amount of mining shares has changed hands, with a tendency toward increased prices. No new developments have been made in the lowest levels, and the stock of any mine has not very materially advanced. The roads throughout the country and adjacent have been steadily improving, and nearly all the mills have resumed crushing. It is not to be expected that this month's dividend will be as large as some of the previous months, for the quantity of ore has been much below the average.....Hale & Norcross continues the favorite, and is seldom quoted in the Stock Board of San Francisco. The ore continues of an excellent quality; no special developments in the mine. The shaft on F street is progressing finely, and the temporary engine will be running this week. The stock is quoted at $2,700 asked.....Savage sold Monday at $1,950, declined to $1,700, rallied again, and has fluctuated during the week from $100 to $200 per share. At the close today $1,850 was bid. During the week, Judge Baldwin, of the United States Circuit Court, issued an injunction restraining the company from working a certain portion of the mine; but, as yet, that injunction has not been enforced. The shaft is down 80 feet (in the Curtis shaft) toward a new level that will be opened when 20 feet more shall have been attained. There are no new developments to report. About 250 tons of ore are being raised daily, although this week the shipments have been much more and will foot up over 2,000 tons.....Chollar Potosi opened at $230, advanced to $233, steadily declined, with large sales, to $220. The mine is looking excellently well. In the new shaft considerable repairing has been done this week, in order to facilitate work in the drifts, already well commenced. At the southwest, and at what has been styled the "Blue Wing" station, a large body of ore, 160 feet in length and from 15 to 30 feet in width, has been opened. From this point comes much of the ore being raised. Another drift from the old Potosi shaft has cut the same body of ore 115 feet deeper, and it has been drifted in about 15 feet and its width is yet undetermined, but, doubtless, will be equal to that of the old station. In the winze, at the first station of the new shaft, the ore looks well. During the week 1,000 tons of ore have been shipped for reduction.....Crown Point opened at $965, with considerable sales, and has been steady at that figure. At the close $850 is bid, ex-dividend of $100. There has been no development in the mine during the past week. A slight accident delayed the setting of the pump, which will be put in place as soon as possible. The amount of ore hoisted and shipped during the week will reach 800 tons.....Imperial opened at $182, declined to $175, and closed at $163, ex-dividend of $12. This week the timbering of the shaft has been completed, and a drift started to cut a body of ore known to exist at the southwest portion of the mine and near the Bacon lode. In other portions of the mine there has been no change in the quantity or quality of the ore. During the week 560 tons of ore have been shipped, of which 420 tons have been sent to the Rock Point mill at Dayton, and 140 tons to the Imperial mill in Lower Gold Hill.....Gould & Curry opened at $540, declined to $500, and closed at $530 bid. We have no new developments to report in this mine. The Bonner shaft is being sunk with steady labor. During the week 647 tons, 1,160 pounds of ore have been shipped. The mill is in good order and running constantly.....Yellow Jacket opened at $822 bid, declined to $730; at the close $785 bid. The sales of this stock for this week were very large, amounting in one day to 143 shares. There are no new developments in this mine that we learn of, and the quantity of ore hoisted is not so great as formerly. The amount shipped last week was 1,850 tons, and the quantity this week will be but little if any more. The company's mill at Empire is running with a full complement.....Empire opened at $175, fluctuated a little, advanced and closed at $180. We have nothing new to report in connection with the mine proper. The Empire Imperial shaft is now down 790 feet, and when it is 900 feet deep a drift will be run east to cut the lode, which it is supposed will be rich in good ore.....Ophir has been steady, with small sales at $200, an assessment of $60 being delinquent. The lower drift is still in very hard rock, and has reached a distance of about 60 feet from the shaft.....Confidence has declined since last week, and the sales have been $21 to $17.....Belcher has remained steady during the week at about $130 bid.....Overman opened at $27, and declined at the close to $18..... Eclipse has no sales to report. An incline has been commenced about 50 feet east of the old shaft, to be used in mining the top portion of the mine and croppings.....Sierra Nevada has been sold at $4. The pump shaft is being lowered into its place, and the machinery is in good working order.....Bullion has declined in price, and we can obtain no intelligence from the mine, except that a drift is being run from the 800 feet station to cut a supposed ledge.

Cedar Hill.—Early in the week we took a ramble to the north of the city, and climbing far up the side of Cedar Hill, gazed at the deserted tunnels and shafts, and rather sadly thought of the change that had taken place in the appearance of the hill since the Spring of '61. Then the most prosperous portion of the city was near the Ophir mine, and on A street to the north; and every person who owned stock in mines at the north and in Cedar Hill, dreamed of nothing but gold and silver bars, and perhaps with some shadow of cause, for an early hydraulic established the fact that gold was profusely scattered through the top earth, and in the tunnels of the old Sacramento mine, piercing the hill, a vein of cellular quartz was cut early in '61, which showed free gold in great abundance; and we remember of having seen a specimen from which, brought into town by Colonel Howard, that created a great excitement, and a rush of locations covered the whole hill from base to summit. The old Manhattan tunnel at the commencement cut "feelers" of ledges which showed rich sulphurets of silver, but finally proved too broken to pay the cost of mining the ore. In our sight were the ground claims of the Texas company, which were so uselessly fought for by the Meredith; and we could hardly avoid smiling to think of those days when owners of different claims camped on the ground, and were armed with every weapon known to man, ready to fight over a foot of ground which to-day has no owner who will pay nominal taxes; but so it was in those days, and the Sierra Nevada alone is being worked to-day, where, then, the hill was crowded with the throng of miners and shareowners, all rich in the coming strikes. The American, Allen, Oneida, Washington, Golden Star, Lincoln, McClellan, Wisconsin, Kenosha, Osceola, Platt, Peytona, Eureka, Diamond, Delta, Norton, Stella, and perhaps fifty others, the names of which have become as obsolete as their assessment list, are now uncared for, and only marked by their dump, a somewhat costly monument to the mourning stockholders who purchased wild-cat, as men frequently marry, without knowing what they are doing. The future may develop the Comstock in Cedar Hill, but not within the next few years; and as we turned homeward the thought that we, too, had been nipped by the untamed kitten, was very unconsoling.—*Ibid.*

Pine Grove.—The new camp, situated between east and west Walker river, has been christened Pine Grove, and is now a place (city?) of about seventy-five houses and two hundred inhabitants—like the Irish historian's description of Cork—all standing with their gable ends to the streets. From Mr. Matthews, who arrived from the district last night, we learn that a mill, partly owned by Captain Pray, has commenced to crush ore from the Himalaya and Midas mines, and will make the first "clean up" about the first of March. Two other mills will be erected during the coming months of spring, and it is believed by all the settlers that the country is one of exceeding mineral richness. Wood is to be had from the adjacent hills in abundance, and water is obtained from myriads of small, but excellent springs.—*Ibid.*

Humboldt.—The *Register*, Feb. 16th, says: James T. Maclean, of the Sheba mill, made another shipment, by Wells, Fargo & Co.'s Express, of 798 ounces of fine bullion from the Yosemite mine.....Mr. Geisse, Superintendent *pro tem.* of the Pioneer mill, informs us that the result of the working of the five tons of ore from the North Star mine, owned by the Elmira Silver Bullion company, is 768 ounces of bullion, valued at $523.....The Nevada Star Silver Mining company, of New York city, now own the Yankee mine. They have been quietly but energetically at work for some time, driving in a long tunnel, which will intersect the mine about three hundred and fifty feet from the surface. They have strong reason to believe they are now in the neighborhood of the vein, having crossed several small branches of quartz containing mundic stains of mineral and quite a stream of water. The formation is regular and the stratification presents that degree of perfection so much admired by mining men of extensive observation and experience. When the vein is tapped, it is proposed to take out ore and erect reduction works upon its mill site near the mine on Star Creek, where fine water power can be obtained at trifling cost, for large and extensive works.....We are perfectly satisfied that rich developments will be made in our immediate vicinity in a very short time. Among those in this district whose prospects of a rich strike at an early day look the brightest, are the North Star and Agamemnon companies, in both of which Eastern capitalists are interested. Work on these claims progresses steadily day and night, and seams of ore, of a superior quality, have been cut in the tunnels of both companies, giving conclusive evidence of the metaliferous formations in the mountains ahead. Superintendent Loomis, of the North Star, last week forwarded five tons of ore to the Pioneer mill, which yielded the handsome sum of $523. The Agamemnon has a fine looking pile of ore at ther dump, which will, on the return of Superintendent J. C. Fall, be worked by mill process.

Colorado.

The Central City *Register*, March 5, says: The shipments for the week ending Tuesday, Feb. 26, are

much better than for the week previous. The Black Hawk company took out 194 ounces, and the Gunnell company 181. The Smith & Parmelee company made a light run, and only cleaned up 82 ounces. Kimber's mill reported 57 ounces. The Leavenworth mill with its twelve stamps made another splendid run for the Alps company, and in six days took out 105 ounces. The banks shipped the following amounts: Warren Hussey & Co., 615 ounces; Rocky Mountain National Bank, 450 ounces; Geo. T. Clark & Co., 225 ounces. Total, 1,290 ounces, valued at $22,000. This is an increase of $9,000 over last week, but it is due to say that a shipment of nearly 200 ounces by Geo. T. Clark & Co. last week, was by an oversight not reported.....Another paper, referring to these shipments, adds that with twice or thrice the number working all the time, as they ought to hereabouts, there would be a very respectable sum shipped to the East every week. As it is, only a few institutions are working, and of them only a few ship East every week.....The *Times* says: A number of the more enterprising miners are already starting up for a vigorous work this spring. Among them we may mention S. P. Lathrop, who has commenced operations on the Calhoun lode, on Alps hill, in Leavenworth district. Also Mr. McCaskell, who has gone to work on the same lode. Geo. K. Sabin just built a mining or "whim" institution on the Keystone, and is preparing to mine "like a miner." Robert Teats is starting up also, for the Alliance company, and expects to roll out the ore in abundance from now until fall. His base of operations is on the Crawford. Mr. Whitcomb has started mining operations on the Indiana, in Nevada district.....Our mines are yielding pretty well this winter, in proportion to the few numbers of parties working. Their monthly shipments might be six to sixty times as great if the holders of valuable claims would only go to work, instead of "holding off" for capitalists to come on, or hieing to the East to "organize a company."..... The Central City *Register*, Feb. 26, says: Gomer's train, which arrived on Sunday with the tubing for the pump of the Ophir company's mine, finished unloading yesterday, and left for the valley.....The production of gold for the week ending Tuesday, Feb. 19, has been very fair. The Leavenworth mill made another fine run, and with its twelve stamps in four days took out fifty-seven ounces of gold. The Gunnell company report two hundred ounces as the result of their last week's run, and the Smith & Parmelee company one hundred and twenty-four. The Black Hawk company took out one hundred and thirty-one ounces. The Sterling company on the Bobtail shipped ninety-two ounces. The bank shipments this morning were as follows: Rocky Mountain National Bank, 300 ounces: Warren Hussey & Co., 260 ounces; Geo. T. Clark & Co., 81 ounces. Total, 641 ozs., valued at $13,000.....The Denver *Gazette* says: We are informed that another argentiferous galena lode near Breckenridge, has been sold. It is the Berthold. The price was $5,000, and the purchasers were Whitney and Whiting, agents for the Bullion Consolidated company.....The *Register* of March 5 says: How to roast and amalgamate is a question the solution of which has cost operators in Gilpin county not less than five millions of dollars, perhaps twice that sum, and still it is nearly as open for discussion as on the day when it was commenced. From time to time new inventions have been made, each in turn being for the time considered a success, and all that was required for the treatment of our ores. One after another they have been cast aside as worthless, till very few of them are considered at all valuable. Keith's is the only one of those formerly introduced which still continues in use. Ill success, however, has by no means stopped the spirit of investigation, and so from time to time new processes are introduced, each bringing some new principle to bear, and embodying something new and valuable. So that though the process itself should as a whole prove unsuccessful, something has really been gained from each. In the indomitable exercise of this spirit, a party of scientific Germans have erected experimental works in the Dodge mill, on Clear creek. The apparatus is extremely simple. It consists first of some means of dry crushing for which any practicable machinery may be employed. After crushing, the ores are roasted. Here their process commences. The roasting or desulphurizing consists of a revolving cylinder lined with brick and fire clay. A partition of iron bars passes diagonally across the cylinder from one end to the other. The effect of this is to keep the ore passing backward and forward as the cylinder revolves until it is sufficiently desulphurized, which usually requires several hours, when the ore is discharged and a new charge is introduced. For producing the necessary heat, a small brick furnace is used, the flame from which passes through the cylinder, heating it and the ores, and thence passing into the flue which takes away the smoke and sulphur fumes. For the desulphurization of thirty tons of ore from one and a half to two cords of wood are required. To drive the machinery, from four to six horse power will be necessary. The roasting and oxydation is carried to completion, so that no sulphur remains. Should arsenic be present, steam may be introduced at some time during the roasting. The ore is at the same time thoroughly oxydized. After treatment in these machines the ore is ready for amalgamation. It is claimed that the gold is entirely free. A sort of wooden box in which a roller of granite is used to keep the pulp in motion, is all that is employed for the amalgamation, which is claimed to be perfect, or so nearly so that never less than 85 per cent. of the gold is saved. If the ores contain a large amount of silver after roasting they will be treated by salt before amalgamation. The roasting is certainly the most thorough we have ever seen. We saw samples of the ore panned down, leaving the gold bright and free in the bottom. This gold was at once licked up by the quick-silver when passed over it without any rubbing. Even impure mercury, unaided by the presence of other chemicals, did this. They claim that the desulphurization and oxydation should be so perfect that it will have no chemical action on the ore, and that by carrying it to this extent the mercury never becomes corrupted. From the experiments made, we see no reason why the amalgamation may not be as perfect on a large and working scale as in a small way. Every one who has examined their operations appears to be satisfied with the results. They are now putting up more extensive works. We shall watch with interest for future developments. A new mode of roasting is being tested at the present time at the Kenyon mill. The crushed ore is mixed with water and some materials not including salt, made into bricks and burned in a kiln. We found the desulphurization by this process also very perfect, and it is claimed that the amalgamation after treating by this method is very perfect, and that it is accomplished without difficulty.

Montana.

From the Helena *Herald*, Feb. 14, we condense the following: From Professors Eaton of Bannack, and Doughty of Virginia City, we learn that bright prospects attend the quartz interests in their respective fields of labor. In the Summit district, just south of Virginia, Bush's, Postlewaits' and Christonts' quartz mills are in successful operation. The Postlewait mill cleaned up last Sunday morning, after a run of five days with fifteen stamps, $2,488 20.....Prof. Eaton's cupelling furnaces, at Bannack, operating in silver, are about to resume business. All the old ledges, both of gold and silver, in the Bannack district, are holding out well. Cope's mill at Hot Springs, engaged on gold quartz, is again in operation. Clark & Upsum's works at the same place, are being reconstructed by supplanting their patent trash (crushers) with Hendrie's stamps.....From personal inspection we find that Hodge's, Hendrie & Co's and Judge Turnley's mills in this vicinity are all engaged in crushing ore from the celebrated Whitlatch Union lode—all small class mills, running an average total of only about thirty-two stamps—and have yielded during the sixty days to date, a total of gold bullion amounting to no less than one hundred and eighteen thousand dollars ($118,000). But even with this flattering result, it must be allowed that in some cases from newness of the machinery, and in others from the age and dilapidated condition thereof, breakages have caused one or other of the three small mills mentioned to lie idle a greater portion of the time..... Upon the setting in of the winter the unhoused arastras and Wessel's six-stamp mill at New York, (Trout Creek district) were necessarily closed for the season. The Gaston & Simpson mill, (thirty stamps,) although entirely devoid of the usual arastras, riffles, blankets, shelving and other improvements for saving the gold, relying solely upon their bare plates and the battertes, continued running with results which cleared up purchase money and all expenses incurred, up to the middle of January, when certain changes in the company taking place required the presence of Superintendent Simpson in the East, the mill was temporarily stopped. But Mr. Marshall, the new Superintendent of the company, having recently arrived here from Philadelphia, finds, as he says, everything in good shape, and proposes to start up the mill again without delay..... Hendrie & Co.'s new mill, situated adjacent to the mill above referred to, but crushing ore from different lodes, has twelve of the twenty-four stamps running night and day, with satisfactory results. Machinists and a large gang of workmen are now engaged in completing the putting up of the other two batteries, (six stamps each,) together with two arastras, and such other appurtenances for saving the gold as recommend themselves.....Several new lodes with veins of unusual thickness and excellent quality of ore, have been lately discovered in the New York district..... The interest held and owned by Messrs. Heald & Foote in the rich Gold Mountain lode, situated about three and a half miles from New York City, of which we gave an account some weeks since after a visit to the same, has recently been bought at a fair figure by the agent of Chicago capitalists, who propose to bring on a stamp mill to develop this lode, next season..... The Baily lode, which has furnished some of the richest specimens in the market, and which is situated just on the western slope of the main divide, about eight miles from Blacktoot, and the head of "Dead Wood" gulch, celebrated for yielding during the seasons of 1865–'66, solid nuggets of pure gold, valued respectively, one at $2,240, another at $600, and still another at $900, is still being worked by the owners. They are now down about one hundred feet in the main shaft, have struck the bed rock, and will drift for the crevice, which, on the surface and at the bottom of the old shaft was seven feet thick of genuine quartz. This lode is owned by Messrs. Bailey, Brooks Bros., and James Fergus, who are so confident that they have a fortune for each one they will not sell at any figure.....While smelting and cupelling furnaces answer well the purpose for working most of our silver mines, because of the plentitude of galena existing in most cases, we can find no dissenting opinion entertained by any of our scientific, practical and long experienced miners, from the opinion we have heretofore advanced, as to the kind of mills and machinery, and none other, needed in working gold quartz in this Territory—which is simply the plain stamp mill, to be run in connection with arastras, and accompanied by such improved shelving in batteries, etc., as are known at the present time to most of manufacturers of quartz mining machinery. Not a single patent crusher, grinder, dissolving process, or any new fangled patent arrangement of whatsoever kind that has been invented and palmed off upon the inexperienced and credulous capitalists of the east for the past four years, thus literally swamping hundreds of thousands of dollars, has proven of any service or utility whatever, independent of the stamp mills, when brought to the Territories and put to the test. This indisputable fact should be told to all, and heralded abroad everywhere, if we would prevent a recurrence of the impositions that have already worked incalculable mischief in connection with the development of our mineral resources.....On Friday of last week word came into the city that a rich prospect had been got in a tributary to Holmes' gulch situated along the northern base of the range, and about midway between Helena and Prickly Pear, or some four miles out. Quite a number of miners and others were on the stampede without delay, and upon arriving on the ground, finding things genuine, organized under the title of "Butcher Knife" District, elected their recorder, staked off their claims and recorded the same. Prospects of from thirty to fifty cents to the pan of gravel were obtained.....A correspondent writes from Atlantic City, Lost Horse gulch, Feb. 10, as follows: In the Upper, or Perry's District, they have done a good deal of ditching and considerable drifting for pay dirt of late, and with the very best results. Prospects as high as five and ten, and even eighteen dollar nuggets have been got from a single pan. The Upper District is now worked as high as claim 37, with good pay even on the rim rock. Drifting and ditching is now going on briskly in Lower District, and wherever a claim is opened, it promises big. A party of men are just now prospecting in one of the large gulches coming down from the main divide near by, and flowing into the Prickly Pear below this camp. They have already struck fair prospects, and if they get what they expect on the bed-rock, you may look out for another stampede soon.

New Mexico.

A letter from Santa Fé, March 6th, says: Under the new mining law of the Territory of New Mexico, fifty-four leads, with an aggregate of 151,050 feet, have been located in Doña Ana county since April, 1865. Of these leads twenty-eight were gold, eighteen silver, six copper, one of platina and silver and one of kaoline. The silver leads were principally located near the towns of Doña Ana and Las Ceuces, in the Organ mountains; the gold near Pinos Altos and Fort Bayard, in the Sierra Madre mountains. The copper leads are also near Fort Bayard. A new lead of gold bearing quartz has been discovered lately near Pinos Altos. It bids fair to surpass any other yet discovered in Doña Ana county. It is four feet wide, and has been located for more than a mile of its length. There are on record besides the leads to which I have referred many locations under the old Mexican denouncement law, say half as many as under the new law. A portion of the Santa Rita Cobra lead, near La Masilla, was sold about two weeks ago to a resident of that locality for $5,000 cash. A large mining immigration is looked for in New Mexico during the spring and coming summer. Many American families have expressed their desire and determination to make the territory their home. What is needed to make New Mexico prosper is a large influx of Americans. They have the go-ahead the Mexicans do not possess, and are without the constitutional indolence they do possess.....A correspondent of the Santa Fé *Gazette*, March 2d, writes from Mesilla: This region of country seems now to bear the palm. Pinos Altos, Miembres, Organ Mountains, and elsewhere, all prove, upon prospecting, to be rich in all the precious metals, and are now attracting earnest and definite attention. Both our native and American population, fully convinced of the fact of the immense wealth of these mines, are putting forth their energies and freely employing their capital. As an evidence of the confidence in the wealth that must develop from these mines, the Hon. John Lemon, yesterday, purchased, of N. Y. Ancheta, Esq., his share in the Santa Rita de Cobre mine for $5,000, cash down. In this mine are interested some of our leading citizens throughout the Territory, at the head of whom is our Governor. Judge Lemon, as purchaser, seems much better satisfied with the bargain than the vendor. I think it safe to predict a new era in mining enterprise in New Mexico. .....Henry Hilgert writes to the Santa Fé *Gazette*

from Los Lunas, Feb. 15th, as follows: Allow me to send you a statement about the discovery of gold in the Cañon del Agua (water cañon,) Sierra de la Madelena, sixteen miles west of Socorro, on the Rio Grande, and also to give you an account of the experiences of a company of gentlemen, who united at Socorro, for the purpose of prospecting to some extent the above named cañon. In the beginning of the month of January of this year, a few persons who had found gold in the Cañon del Agua, were at work there, and on the 11th day of January a party of twelve persons united at Socorro and furnished the means to engage the services of six laborers and one superintendent, to work in said cañon, *i. e.*, to dig down to the bed-rock, in order to see whether it would pay to work those diggings, and whether, footing up their own experience, they could conscientiously encourage persons from abroad to come to that place to search for gold. The superintendent and laborers went out there, selected a place to work at, and began digging for the bed-rock. Arriving at a distance of from nine to ten feet, they struck an undercurrent of water, and had to make tail-diggings of about one hundred and sixty feet in length, to draw off the water; after accomplishing this, they went further down and (on the first day of February) struck the bed-rock at a depth of about thirteen feet from the surface, or about three feet below the water-current. The superintendent not discovering any gold at that spot, on the bed-rock, came to Socorro to report. A meeting was held and a committee appointed to go out there to examine the water and to report next evening (on the 2nd of February,) the result of their investigation. The committee when out there found matters as follow, viz.: Right on the bed-rock there is a yellowish heavy dirt, which prospected nothing whatever; above this yellow dirt there is a layer of black dirt, a pan of which prospected sixteen colors, (ten good colors and six very fine ones); a layer of dirt above this one showed four colors, a layer above this one, five colors; one a little higher up six colors, and one a little higher up showed five colors to a pan, and right on the surface there were found in one pan two and in another one, one color. In several other places were found from five to fifteen colors to a pan, in the surface-dirt. The opinion of several miners out there was, that if the diggings were continued in a southern direction there were a good many chances to strike very good pay in rich layers. Some thought that the gold in this region would be found collected in what they called pockets; others were of opinion that, from the appearance of the bed-rock, the other side (the east side) of the creek would prospect better, etc. Others made other suggestions, but all were satisfied that those diggings, when duly and perseveringly prospected, were bound to prove very rich. The committee taking into consideration: 1st. Their own observations. 2nd. The opinion of the several miners. 3d. The limited means of the parties who paid the expenses for working there, came to the following, viz: To recommend to the company who appointed them a committee of investigation, that the members of said company, not being practical miners, nor able to give their personal attention to the working of these diggings, should abandon the working of the same at the company's expense, and should furnish to the several papers, that take interest in such matters, a true and faithful report of the experience they made in regard to placer gold-diggings in this region, in order that miners, and persons who make it their business to hunt for mines, may judge for themselves whether it be or be not practicable for them to come to this place. The company in Socorro adopted the report of the committee, and appointed the undersigned a committee of one to write out said report and to send it to such papers as he think proper. I beg further to state that the Cañon del Agua is about five or six miles long, and that the creek running through it is a fast running stream from the month of August to the month of April, and during the months of April, May, June and July, I understand the water is not so abundant, but always sufficient for mining purposes. There is a great deal of timber, splendid gramma-grass and any amount of deer to be found there, and a very good wagon-road leads from Socorro right into the cañon. There are also quartz veins in that cañon, but as yet I have no means of knowing whether the quartz proves rich in gold or not. In other mountains of this neighborhood have been found also a great many quartz veins, that are expected to prove rich; but since there are hardly any persons in this part of the country, who are able to bring up money enough to work quartz veins, the excitement about those veins does not run very high among our people.

Utah.

Concerning the mines of argentiferous galena at Rush Valley, says the *Vedette*, of Feb. 23, little has been said for some time to attract public attention. That these mines are of vast extent and undoubted richness was demonstrated long since. But unfortunately for obtaining large practical results, they were discovered, owned, and held by individuals having little other capital to develop them than their own industry and labor. Many of the veins have been opened by shafts and tunnels, the rich ore exposed and crude furnaces for smelting erected without the aid of foreign capital. The results have been satisfactory, though not of that extent to demonstrate the value of these mines. During the past winter, notwithstanding the snows and difficulties necessarily encountered in that season, considerable and most satisfactory progress has been made. Smelting and cupelling furnaces adapted to the character of the work on hand, have been built, and a small engine set up for crushing and blasting purposes. Practical smelters have been busily engaged at Stockton in testing the ores and superintending the works. The Connor Smelting company, under the supervision of General Connor, have been at work to demonstrate the practicability of separating the precious metal from the crude ore by means of blast and cupel furnaces. We regret to learn that just as the company was prepared to commence operations on a large scale, the engine shaft broke, and will probably necessitate sending to California for repairs. Still, before the accident, the most satisfactory results were obtained. The process adopted for separating the metals by means of cupelling is found to be correct, as well in practice as in theory. We have seen a fine bar of silver, the result of a partial working of the furnaces, and run into its present shape in the moulds of Messrs. Bohm & Molitor, assayers of this city. Messrs. Warren and Davis, in charge of the works of the Smelting company, are practical workers in minerals, and have had large experience in the mines of Nevada, Arizona and Mexico. .....These gentlemen write from the Rush Valley mining district, Feb. 18, as follows: "Knowing the interest you feel in anything having a bearing on the future prosperity of Utah Territory, we furnish you with a condensed statement of the working results of our process of smelting the argentiferous galena ores so abundant in this district; also, our estimates, based upon actual experience, of the cost of erecting, at a proper season of the year, suitable reduction works and running the same successfully. Our experimental trial was made on ore taken from the "Silver King" ledge, regarded by all the miners as furnishing the lowest grade ore of any mine in the district. The object to be attained in selecting the poorest class of ore for a first test will be manifest to any careful worker; for if we succeeded in making such pay a profit above working expenses, the fact would be established beyond a doubt that the numerous other ledges, known to be far richer, would yield an increased amount of profit under like treatment, and safely warrant any reasonable expenditure of capital in erecting good and substantial reduction works, capable of treating all the ores mined. The mines of Rush Valley can be made, under skillful and intelligent management, to yield vast quantities of precious metal, and afford profitable employment to a large mining population. This much-to-be-desired end can be achieved by a comparatively small outlay of capital, as we will endeavor to make plain by a few figures:

Cost of erecting a sufficient number of our blast furnaces to reduce 48 tons of ore per diem, will be	$3,800
Cost of shed or building to inclose same....	2,000
Steam engine, for blast power, 12 horse....	5,000
Cupelling furnaces for refining crude bullion	1,200
Total cost of erection,.....	$12,000
Daily expenses of running the same:	
Wages of smelters and refiners	$260
" assistants, feeders, fluxets, etc.,....	100
Cost of fuel.....	0
Cost of mining and hauling 48 tons.....	960
Total daily expenses.....	$1,590
Product in crude bullion, known by actual test, and yielding in silver $85 per ton, 24 tons—value of same in silver....	$2,040
Lead bars after refining same, *a* 5 cts per lb. —half the market price at the east.....	1,598
Total product.....	$3,638
Daily net profit.....	$2,042

The above estimate of working costs is larger than necessary, sufficiently so to provide a fund to cover any unforeseen expenditure that might arise. We would have made working tests of all the other ores found in the district, had not the engine unfortunately broken down while under full blast, necessitating a suspension of further operations for the present. Having had considerable experience in the treatment of these peculiar class of ores, we have no hesitation in asserting that few, if any, mining districts on the western slope of the Rocky Mountains can offer better inducements for the investment of capital than Rush Valley district, Utah Territory.

Idaho.

The Owyhee *Avalanche*, Feb. 16th, says: The biggest reports of the Poorman are true, but constant harping upon them has overshadowed the many other ledges in which free gold and native silver have been found. Leaving out the Poorman, and we feel certain that no known mining district of the same size can show the rich sights of precious metals as the one embracing the Oro Fino, Morning Star, Allison, Whisky Gulch, Silver Cord, Woodstock, Reuter & Johnson, Calaveras, Silver Monarch, Sherman, John Jacob Astor, Rising Star, Virginia City, Forrest, and many others in the region embracing those mentioned. We believe it a demonstrable fact that in proportion to the systematic expenditure of money and labor, Owyhee has produced double the bullion of any other mining district of present note .....The Silver Cord mine is said to be showing a body of rich ore in the third level, and also on the face of the second. There is no doubt of the fact that ore taken from this ledge has yielded at the enormous rate of $260 per ton. The mine is rich, and if managed in mining and milling so as to work nothing but quartz, and save the metal, it must soon place the company in a prosperous condition .....The contract to run the No. 1 Hays & Ray tunnel four hundred feet has been awarded to Messrs. Burnham & Jackson by the N. Y. & O. company. The price per foot is twenty dollars, which we think reasonable. The contractors have already commenced operations, and will put the work forward as fast as possible, and have it completed in the early part of summer.....S. T. Anderson, of Flint district, informs us that Carter & Co.'s mill is crushing rock, and that the machinery works well. The roasting furnace is ready, except the chimney—and but for the severity of the weather that would have been completed. The ore being crushed is from the Rising Star. The treatment will be first to crush, then to roast, and lastly amalgamate in the usual way. Good results are anticipated.....Mr. Lewis, of the Cosmos company, has been and is now studiously applying a new process with rich results. Flint district ores, which yield by common mill process only fifty-two dollars per ton, give $402 by the process of Mr. Lewis. This great advance in yield is the result of saving the sulphurets. The same ore when roasted only gives a product of $228 per ton. The process of saving the sulphurets is much easier than the old method, and avoids roasting and amalgamation in pans. Rebellious ores in this camp which have given small results, and involved heavy cost for chemicals and large losses in quicksilver, have yielded under this new treatment at the rate of $116 per ton from second class, and $68 from third class. The same process is not applied to all ores. It is varied according to the ores to be treated, but the same success is uniformly gained. However base the ores, the gold, and sulphurets and quicksilver are saved. Earnest and intelligent application has brought about these actual results, and upon a scale sufficiently large to make it certain that a most important step forward in mining economy has been taken .... The Idaho *Times* of Feb. 8th says: We have been unable to visit the Boise mines this winter, as often we intended, but learn from miners from various creeks and gulches that a large number of claims are being opened for spring operations. If water had been kept in the several ditches a large number of mines might have been worked during the entire winter, with the exception of a few weeks, and the ditches would have been kept clear of ice and snow. Now they are filled up to such an extent that weeks will be consumed in the spring to clean them out .....The Lewiston, North Idaho, *Journal* of Feb. 1st says: Gold creek is a tributary of the Palouse flowing from the North, and is about 45 miles from this place. It is reported that forty men are at work on the creek and making from four to nine dollars per day to the hand. No cold weather in the mines sufficient to stop work. The water is now running plentifully in the creeks—about twenty inches snow in the mines. No snow on the Palouse, and from two to fifteen inches on the table land between this and the Palouse bridge.

New Hampshire.

It is stated that the mining excitement at Lisbon, Lyman and Rumley, and other towns in New Hampshire, is increasing. Rich discoveries are reported, and companies are forming to work the mines—which are believed to abound with gold, silver and lead. .....The quartz mine of the Hartford mining company in Lyman, N. H., is yielding an average of over $100 worth of gold per ton. A lump of gold weighing nine ounces, and worth $180, has recently been taken out. The company have got out 1.500 tons of quartz, and are now erecting a quartz mill with the necessary machinery.

Nova Scotia.

The last *Royal Gazette*, says the Halifax *Chronicle*, contains a tabular statement of the number of gold mines being worked, the number of men engaged in mining, quantity of quartz raised and crushed, etc., in the various gold districts, for the months of October, November and December, 1866. From this return we compile an account of the operations during the three months:

STORMONT, ISAAC'S HARBOR.—In this district two mines were worked, forty-three men employed, three quartz mills in operation, 449 tons of quartz raised 460½ tons crushed, yielding 357 oz. 15 dwts. 20 grains of gold.

WINE HARBOR.—Nine mines, thirty-five men, four mills, 484½ tons of quartz raised and crushed, yielding 236 oz. 11 dwts. 8 gr.

SHERBROOKE.—Twelve mines, seventy-five men, four mills, 807½ tons of quartz raised and crushed, yielding 1766 oz. 19 dwts. 6 gr.

TANGIER.—Ten mines, twenty-seven men, four mills, 225 tons of quartz raised, 22½ tons crushed, yielding 28 oz. 11 dwt.

MONTAGUE.—One mine, four men, four tons quartz

raised, none crushed. (There was no work done in October or November. In December twelve men were employed.)

WAVERLEY.—Ten mines, 258 men, six mills, 3,534 tons of quartz raised and crushed, yielding 1,348 oz 2 dwt.

OLDHAM.—Six mines, forty-three men, seven mills, 310 tons 3 cwt. of quartz raised and crushed, yielding 451 oz. 15 dwt, 13 gr.

RENFREW.—Sixteen mines, 189 men, seven mills, 2,110 tons of quartz raised, 2,113 tons crushed, yielding 2,773 oz. 19 dwt. 18 gr.

UNIACKE.—Two mines, seventeen men, one mill, 108½ tons quartz raised, 28½ tons crushed, yielding 72 oz. 16 dwt. 9 gr.

UNPROCLAIMED AND OTHER DISTRICTS.—Four mines, fifteen men, two mills, 174 tons of quartz raised, 101 tons crushed, yielding 95 oz. 14 dwts, 4 gr.

In the above statement 14 oz. 3 gr. "obtained otherwise than from crusher," are included. The average number of men daily employed in all the districts was 708; average number of mines worked in all the districts 73; total quantity of quartz raised 8,206 tons 13 cwt.; total quantity crushed 7,861 tons 13 cwt. The total yield of gold for the three months was 7,086 oz. 15 dwts. 5 gr. This gold realizes $19 50 to $19 75 per ounce. At $19 50 the above quantity would be worth $138,191 82. The yield for the corresponding quarter last year was 6,044 oz. 6 dwts. 5 gr., showing an increase in the past quarter of 1,042 oz. 9 dwts., or over twenty thousand dollars worth. The highest yield per ton was from the quartz in the Uniack district. Three and a-half tons crushed in October, yielding 28 oz. 19 dwts., or, at the rate of 8 oz. 11 dwts. 4 gr. per ton; 3 cwt. crushed in November, yielded 1 oz. 10 dwts., or 10 oz. per ton. This is probably the greatest yield from Nova Scotia quartz, and we doubt, excepting nuggets, if it has been surpassed in any country. With these results before the public, gold mining ceases to be an experiment, and may justly be called one of the most valuable and remunerative branches of Provincial industry .....The Hamilton *Times* says: The Ophir Mining Company of Nova Scotia have made their dividend of 50 per cent. payable January 12th. This company was organized in February last, under trustees, and subsequently under a provincial trustee, with a small capital, except that derived from the mine itself. With the proceeds of the mine the company have built two mills, an agent's house and other structures, bought additional property, and hold in hand a large reserve in money and bullion. With its present earnings the company will, it is stated, be able to divide from $35,000 to $40,000 quarterly for future dividends. It has left overhead, for future stopping, while sinking its main lodes, about $65,000 in gold, and is opening three more shafts on the extension of the veins.

Canada.

TORONTO, March 18, 1867.

EDITOR JOURNAL OF MINING. SIR: The amount of people going into Madoc is so great that it is very difficult for them to find accommodation, but several hotels are in course of erection, which will be a great comfort to the travelling community. Within the last few days $50,000 in gold has been offered and refused for a few acres in the vicinity of the Richardson mine. Gold is reported to have been discovered in several places in the township of Belmont, and fine specimens are shown from that district, so that quite an excitement is getting up about it, and it is thought that as soon as the spring opens, Belmont will become quite as celebrated as Madoc, besides which the railway running through a portion of the township, will give great facilities for mining in Belmont. The Government have withdrawn all their lands for sale in these townships, and nothing will probably be done with them for some time to come, so that now the great demand is for land held by private persons, many of which are rapidly changing hands.

T. D. LEDYARD.

There is no doubt gold has been found in considerable quantities in the quartz, all through the first, second and third concessions of the township of Elzevir, on and near Black Creek. It has also been discovered in the northeastern part of the township of Marmora in the county of Hastings, and also at or near Breakenridge's or Fox's saw mill, in the fifth concession of Belmont in the county of Peterborough ..... The *Evening Telegraph* says the Madoc gold deposit has got the geologists into the worst scrape they have been in this half century. New discoveries are reported every day. We have certainly not only a wide extended gold field in Central Canada, but one of immense wealth.....The Belleville *Intelligencer* says the gold excitement in the northern part of the county of Hastings still continues, and the highest hopes are indulged in as to the wealth that will be discovered in that locality as soon as the spring shall open..... A correspondent of the *Intelligencer* writes from Madoc on the 27th ult.: I have just received reliable information that gold has been found on lot No. 30 in the 5th concession, owned by Mr. McCance, and not in small quantities either, in the dust and in black quartz. The party saw it in the quartz as it was still fast in the mine. This, as a matter of course, makes some excitement.....The greatest activity now prevails along the Belmont portion of this new route. Forty men are engaged in providing material and frame work for the wharf on the river Trent, just above the Narrows. Gangs of men are to be found at intervals along the track, cutting out the roadway, or preparing ties, while eighty men are at work at the ore-bed, removing the surface earth, and preparing the approach for the track to the deposit of ore. It is said that four hundred men will be required permanently to work in getting out the ore, loading the cars, &c., and as these men and their families will reside at the ore bed the place will be one of considerable bustle and business during the approaching season .....The Quebec *Chronicle* March 4th says: The De Lery Gold Mining company, organized under Canadian laws for the development of Canadian mines, is really of an international character, drawing its capital from New York, Montreal and Quebec, and mingling in its directory some of the soundest business men of the three cities. The field of operations is the Seigniory of Rigaud Vaudreuil—so long famous as the original gold field of Canada; and the careful prospecting of the company since its organization, reveals an abundance and richness of alluvial and quartz deposits, that has never been exceeded in any equally extensive portion of Caliiornia and Australia. The consequence is that, while other parties have been talking, this company has felt itself justified in acting, and has proceeded in the erection of a quartz crushing mill, equal in the quantity of its work to any in America, which is now within a few days of completion, and which will commence regular work about the first of May. Quartz rock is now being raised on several ledges for the supply of this mill; and the echoes of the Chaudiere valley will be startled during the coming summer by the unwonted sound of the stamp-mill, and its precincts invaded by a new element of population drawn from all parts of the world by the fascinating pursuits of the miners.

Minnesota.

The Superior *Gazette*, March 9, says: The latest intelligence concerning our adjacent gold fields is of a very favorable nature, so much so that those who are interested feel more confident than heretofore.

Blackhoof—This gold district, which is only twenty-eight miles from Superior, with a good road running through it, is attracting considerable attention. Numbers of persons from this locality, and also from St. Paul and vicinity, have taken up claims, and others are only awaiting the departure of the snow to give the district a thorough exploration. Those who have examined the veins there pronounce them rich, and we have seen a certificate of assay from the mint which gives a yield from a surface specimen of $10 per ton. Should this district prove as rich as is claimed for it by its discoverers, it ought to rapidly fill up with miners, as unquestionably there is no more accessible district in the United States.

St. Louis River.—Between Fondulac and the head of the falls gold and silver bearing rock has been discovered and some specimens assayed, which show a respectable yield.

Vermilion.—Although most parties in this locality have firm faith in the ultimate value of the Vermilion gold fields, they will not be unwilling to be informed that late tests of ore from that region, treated by the "Wykoff Process," have demonstrated that the yield of bullion therefrom is largely increased. Dr. Peck writes from New York that some of the vein matter from their location has, under the above named process, yielded over $100 per ton; and it must be remembered that this same vein, under the process used by Dr. Mosely, gave a return of only about $20 ..... Mr. Chute, who is a member of the North Star company, of Minneapolis, also advises his company of the same result obtained from specimens taken from their vein.....Mr. Symonds, the agent of the New York and Minnesota company, will arrive here next week and start for the mines with supplies for the next season's work.

COPPER.

Michigan.

The Houghton *Mining Gazette*, March 7th, says: The following are the February products: Calumet minerals, 140 tons 505 lbs.; Hecla, 118 tons 176 lbs.; Huron, mass, barrel and stamp, 85 tons 1394 lbs.; Shelden-Columbian, mass, barrel and stamp, 48 tons 1463 lbs.; Isle Royale, stamp, barrel and mass, 30 tons 148 lbs.; Grand Portage, stamp and kiln, 25 tons 1874 lbs.; Douglass, barrel, 6 tons .....The Hancock *Times*, March 9th, has the following additional ones: Quincy, 80 tons 630 lbs.; Franklin, 75 tons.....The *Gazette* says of the Shelden-Columbian: The occasion of the smallness of product the past month was stamping from burrows that have been twice culled over for coarse copper. This rock was deposited away from the line of the tramroad, and has been stamped now because it can be brought easier to the mill .... At the Schoolcraft a belt of copper-bearing amygdaloid was cut on Tuesday afternoon. From its appearance it is thought to be the hanging wall of Calumet conglomerate.....The *Times* says: At the Schoolcraft, the copper taken from the belt of amygdaloid, several pieces of which we have seen, is indeed good. The water in the exploring pit is troublesome, and it is the intention, we believe, to bring up open cut to drain off ....At the Kearsarge the conglomerate, as reported by us last week, has been found on this property, but now looks rather poor.....At the Hecla, the richest conglomerate ever seen is probably in the shaft now being sunk between the two pits—better, we should judge, than that in the big pit at the Calumet. Sinking a two inch hole ten or twelve inches a shift is about all that can be done .....At the Essex, the bottom of No. 2 shaft shows a fair looking vein. .....At the Amygdaloid, the east wall of the master lode, on the 50 fms. level north of the winze, north of the Haddock shaft, had not been found up to Monday last. Its appearance is still good .....At the Pennsylvania mine, the work is confined at present wholly to driving north from No. 2 shaft on the 50 fms. level, which is now in from the shaft 150 feet. The vein showing in the drift is fully three feet in width, and well filled with stamp and shot copper. Occasionally pieces of copper, weighing five pounds and upwards, are taken out. It appears to improve in character as they approach the Greens one.....At the Deleware mine (which we are obliged to call it for the purpose of definiteness in description,) they are still driving north from No. 2 shaft on the 30 and 40 fms. levels, and it is designed to keep the 40 fms. level drift going until the slide is reached—distant from the present end of the drift several hundred feet. The vein in the drift on the 40 fms. level is about two feet in width, and is yielding quite largely in barrel work and small masses. The lode dips rapidly towards the North .... At the Copper Falls, the Thomas shaft is now down to the 70 fms. level, and they are engaged in securing it preparatory to hoisting from this level. This level, 70, is opened from the shaft to No. 1 winze north. The lode on this level is good, from winze to shaft. The stopes over the 60 fms. level are still good, the principal part of the product coming from them. Still driving north and south on the several levels with good results. North of Thomas shaft several hundred feet, they are sinking another shaft. Connection with the adit has been made.....The Phœnix West, or what is more generally called the Robbins vein, is increasing in size and yield of mineral as they extend their workings in depth and toward the Greenstone. The vein now showing in the 30 drift north runs from six to eight feet in width, being strong and compact, not soft and spongy like the generality of lodes of that extraordinary width, and is well filled with stamp, barrel and mass copper. The principal part of the product of the mine comes from the stopes in the back of the 30 fms. level.....The Ontonagon *Miner*, March 9th, says: Having thoroughly examined the Knowlton mine, we are satisfied that the lower openings and extensions east and west compare favorably with those first made, especially in the deepest portions, in the eastern part of the mine. The vein is chiefly stamp and barrel work. There is a large amount of good copper rock on the stulls, ready for removal, also on the burrows. The stamp mill and fixtures are being thoroughly overhauled and repaired, and will, probably, be ready to run by the fifteenth inst., after which the monthly product from the mine will be materially enhanced .....At the Evergreen Bluff an increase on the past year's production may be safely anticipated for the current year.....At the Ogima, the levels extending east under the old tribute pits continue to develop a very strong lode, one which will pay while any mine in the country does so.

Montana.

The Helena *Herald*, Feb. 14th, says: Among the later discoveries of copper ledges, and which we have heretofore noticed at some length in our columns, are those of the Muscleshell Mining District—situated on the middle fork of the Muscleshell river, in the same latitude as the Lake Superior mines—eighty-five miles east of Helena and about one hundred and twenty southwesterly from the confluence of main river with the Missouri. Since our previous attention to these important mines, developments, surveys and careful assays have been made, which go to confirm them of rare value and great extent. In the meantime average specimens of the copper ore that has been brought to this city in considerable quantities, have been forwarded to different assayers in the East, while the same quality and class of ores have likewise been tested here by additional assays. The result of all these tests are more than flattering. The average results of our home assays, based upon the medium class of specimen ore, are as follows:

Copper, per cent.	33
Gold, per ton of ore	$40 00
Silver, per ton of ore	6 00
	$46 00

Add copper, 33 per cent. 660 lbs., valued at 25 cents per pound, and we have the total value of one ton of ore—at two hundred and eleven dollars ($211 00.) Average specimens of this ore we also sent to Prof. F. McArdle, of St. Louis, who, under date of January 3d, reports as follows from three different assays made: In the first, the analysis was made from the "green carbonate," or green portion of the piece, and yielded forty-nine 64-100 per cent copper —992 8-10 lbs. per ton of 2,000 lbs. 2d. A sample analyzed to determine amount of gold or silver existing—"gave but traces of the precious metals." 3d. With regard to this test the Prof. writes as follows: "The accompanying but-

ton of copper weighing 58 852 1,000 grs. was derived from 112 grains of ore, equal to 52 55-100 per cent., or 1,051 lbs. of copper per ton of 2,000 lbs." Now it is estimated that the average value of copper is not less than 25 cents per pound. The Copperopolis lode has a six foot vein at a depth of 25 feet, and in a location favored by many natural advantages. It is believed that it will not cost more than $3 00 per ton to extract the ore from the ledge, cost say $10 per ton to smelt the same, and in reckoning upon the basis of say 3,000 tons of ore yielding not less than 900 tons of pure copper, which can be shipped to Boston for $120 per ton, the profit thereon would exceed $300,000, and leave a margin for contingencies.....There are at this time —although midwinter—quite a corps of practical miners and lookers-out in the Muscleshell copper field, and we know of many others who will be on the ground in the spring to push forward developments, and to search for new leads.

Missouri.

The S. E. Missouri *Enterprise*, March 16, says: On Monday, March 11, the Legislature passed a bill authorizing the formation of immigration societies in each county in the State, and authorized the county courts to appropriate money, not to exceed $500, to aid such societies in their operations. This is a commendable move on the part of the Legislature. Let not the counties that comprise S. E. Missouri be last to move in this laudable enterprise. Let there be an immigration society formed in each county at once, headed by men who have the interests of their county at heart, and will work to the best advantage to bring about a flow of immigration. If we work for it, we will receive, as a compensation, our share of the immigration now coming to Missouri; but if we make no exertions, Southeast Missouri will be the same rich but undeveloped region of country for years to come.

Arizona.

The Prescott *Miner*, Jan. 12th, says: We have seen a letter addressed to Governor McCormick from W. Thompson, mining superintendent of the Springfield company under Mr. Crane, giving a very full account of the copper mines in the neighborhood of Williams' Fork, and of the smelting furnaces now being used for reducing ores.....The fine working and cleaning up of the Dividend, at Big Bug, has just been reported. The result is $40 per ton. The working was at Borger mill.....Connected with the Borger Mill at Big Bug are several furnaces lately erected and now in successful operation, from which very favorable results are being realized.

Maryland.

MONROVIA, March 18, 1867.

EDITOR JOURNAL OF MINING:

SIR—I have discovered on my farm at Monrovia, Frederick county, Md., on which I reside, a vein of magnetic iron ore. One place, about one-eighth of a mile from the depot, I have had opened, and there have been several tons taken out. One of James Tyson's miners examined it lately, and thinks the prospect very fine. The same vein shows immediately at the depot, about twenty feet in the rock. Captain Paynter, of the Sykesville mines, has examined the ore, and pronounced it of the first quality. M. W. P.

IRON.

Pennsylvania.

The Allentown *Democrat* says: The iron business in the Lehigh Valley, which has been very dull for a long time, is beginning to revive again. All the furnaces and most of the mills are now in full operation, with a fair prospect of keeping on regularly. This will give fresh activity to all kinds of business in this region of country.....The Pottsville *Standard*, March 16th, says: The amount of black-band iron ore shipped over the Mill creek railroad for the week ending March 9, 1867, was 280 13 tons; previous, 1,832 01 tons; total, 2,112 14 tons. The ore was all mined at the McGinnes shaft, at Mill creek. It was shipped to the furnaces of Messrs. John Shippen, Port Kennedy, Montgomery county, James Lanigan, St. Clair, and Atkins & Bro., Pottsville.....Notwithstanding the mud and the inclemency of the weather, the search for black-band ore continues. Gen. J. K. Sigfried has discovered the outcrop of a vein of ore, supposed to be black-band, on the Minersville, and about four miles west of the McGinnes shaft at Mill creek. Gen. Sigfried, who has leased the property, will develop the vein at once.....First Lieutenant John A. Winebrenner, U. S. Ordnance Officer at Reading, has sent for a lump of the black-band ore, for experimental purposes. The ore has been forwarded, but the results of the experiments have not yet transpired..... The most skeptical appear to be thoroughly convinced, at last, that this region abounds in black-band and other valuable ores, and the opening of spring will probably be the signal for the general development of the black-band and other ores found in this region. It is to be hoped that some less expensive mode of erecting furnaces than the one now in vogue will soon be put into practice. We see no reason why small furnaces, erected at a moderate cost, could not be made use of, at least until the present stagnation of almost all kinds of business shall be at an end, when our capitalists may have an opportunity to invest money in the erection of larger ones without fear of loss.....The *Journal* of same date says: Reported discoveries of black-band iron ore in the Anthracite coal measures are on the increase. Responsible parties who have been directing their attention to the geological position in which this ore is now definitely located, have reported it as developed in several new localities. The numerous beds of carbonaceous iron ore existing in the White Ash coal measures, at first led those who had not considered the matter, to accept every bed of ore discovered as "the black-band." This misconception and the diversity of opinion which prevailed as to the geological position of the true black-band, led many to misdirect their efforts in looking for this bed where it could not exist. The snow and inclement winter weather also prevented topographical or geological examinations in tracing and locating the ore intelligently before commencing actual development by digging. We think it is now entirely safe to say that the McGinnes bed of ore exists between two coal beds, and that it is a continuous and persistent bed found wherever these coal beds exist. Its outcrops can be identified over a large area, and numerous developments are now under way. The size, purity and commercial value of the ore *in situ*, however, have yet to be demonstrated. The outcrops of this bed are generally thin and highly oxydized, while it is soft and ocherous, and consequently squeezed and irregular. But, from the explorations which have been made in a number of localities widely assunder, we think the prospects are very encouraging, and have strong hopes—in fact, we know that the "black-band excitement" will turn out to be something more tangible than a "wild speculation." Since our last notice, outcrops of the black-band have been reported by responsible parties as discovered and developed at the Wolf Creek Diamond Coal Co.'s mines, near Minersville, by Gen. Sigfried; on the Brockville tract of the Kaska Williams Coal Co., by Gen. Pleasants, and at Locustdale, on the Locustdale Coal Co.'s lands, by S. Louden Beadle. Some ten other localities, extending from Eagle Hill to Phœnix Park in the deep basins of the Southern coal field, have been hitherto reported. All are actual developments on what we have reason to suppose are the outcrops of the McGinnes bed, while surface indications, which are good guides to a practiced eye, exist on the whole range of country along the outcrops of the two coal beds. But in addition to the McGinnes bed, other new beds of iron ore have been found in the Red Ash measures, overlying it, which promise to be of equal importance. One of these, not before noticed, has been reported as found recently near Middleport for Judge Foster, by Mr. L. Llewellyn. It is a true black-band, containing more carbonaceous matter but less iron than the McGinnes, and resembling closely some of the Welsh black-bands. It exists in connection with a coal bed near M, and is reported as exceeding 18 inches in thickness. We now know that ten separate and independent beds of carbonaceous iron ores exist in the Anthracite coal measures, ranging from twelve to thirty-six inches in thickness, and supposed, under certain circumstances, to be workable. We do not think that we exaggerate when we say that over twenty-four feet unworkable or available iron ore exist. We must state, however, that it would be impracticable to work many of these beds independent of the accompanying coal seams, particularly in the White Ash measures. The true plan will be to work them in connection with the nearest underlying coal bed. In the Red Ash measures the accompanying slates and shales are softer, and the larger ore beds can consequently be worked independent of the coal with much profit.

SLATE.

Wisconsin.

The Superior *Gazette*, March 9, publishes an account of a trip to the slate quarry now being opened by parties from Wabashaw, Minnesota, at Slateville, Wisconsin, from which we condense as follows: This company have made eight locations of eighty acres each on the slate bluffs of this region, and commenced opening a quarry on one of their locations, which, when we were there, was down about nine feet—the mouth of the shaft being about ten feet square. The dyke on which they commenced operations is, they think, about forty feet wide, and running in an easterly course a considerable distance. They have not yet proceeded far enough to do away with the use of powder, but have demonstrated to their satisfaction that the vein they are working is unsurpassed in quality by any other quarry in the world. In fact, Mr. Williams—who, by-the-by, is a Welshman, and from his knowledge of this particular commodity must have been reared on it—told one of our party that "if we wanted any better slate than that before us, we would have to go outside of this world to find it." It splits readily, and some of the specimens now before us are sufficiently true for any purpose—not excepting the bed of a billiard table. They have opened their quarry about one hundred feet from the river, and will, we think, have more water in it than will be convenient, when the ground thaws. Had they commenced operations about one hundred yards further east, this would have been avoided.....An examination of this region proves that, although the general slate formation extends throughout a vast area of territory—many thousands of acres—yet the slate of commerce forms comparatively but a small portion of the whole; the bulk being charged with pyrites and mica as we work westerly, and in other directions so cut up with trap dykes and quartz veins, as make it wholly unworkable. The river breaks through the range where the slates are of the finest quality, and in the particular location to which we refer they are perfectly pure, and free from all foreign matter; with a smooth plane of cleavage, perpendicular or nearly so to the horizon; the grain is fine and admits of a splendid polish; the color varies from a dark gray to a deep blue; and the outcrops on the river show the dykes to be from 25 to 250 feet wide.....The Slate from the St. Louis river quarries will during the coming season be put upon the market, and as its quality is unsurpassed if equalled by any in the world, it must have the effect of revolutionizing the present trade in that article, as with our facilities for water transportation, it can be laid down in Chicago, Detroit, and other western cities at but moderate cost. The only drawback to the immediate successful working of the quarries is the lack of a suitable road over which to transport it to the navigable waters on the St. Louis river, which essential we trust will soon be afforded by the authorities of St. Louis county.

Pennsylvania.

The Carbon *Democrat*, March 2, says: The Lehigh Slate Company, the first one started at Slatington, in 1854, has recently sold one of its quarries for $89,000. Besides this, they own still more real estate than they sold—two working quarries, a mantel factory, school slate manufactory, store house, and all their dwelling houses and lots in and around Slatington. The capital, which was reduced to $84,000, according to the above report, would make their stock worth intrinsically at least double the par value.

The Mauch Chunk *Democrat* says of slate: The demand for this roofing material is very great in the West, and immense quantities are now, at a great expense, sent to Chicago and other western cities..... C. B. Daniel of Bethlehem, and Robert McDowell of Slatington, are said to be the oldest and original slate operators in this country.....There are three hundred slate companies in Northamption county alone. .....The Mauch Chunk *Gazette*, March 14th, states that the Summit Hill Slate company has been organized by some of our enterprising citizens at Summit Hill. The company has leased a most promising tract of slate land in Lyun township, Lehigh county. Ten squares of slate were taken out of the quarry during the process of "uncovering."

COAL.

Pennsylvania.

The Cumberland *Civilian*, March 14th, says: A vein of anthracite coal has recently been discovered in the lower part of this county. We have not learned its extent, but it will probably be developed....It is estimated that 10,250,000 tons of anthracite coal will be mined in Pennsylvania this year.....The Pottsville *Journal*, March 16th, says: There seems to be much confusion and difficulty in identifying the coal beds in the anthracite coal fields, owing to the various local names or misnomers by which they are now distinguished. .....A proposition has been presented to the Legislature to tax all coal mined and sold by the mining and transporting companies ten cents per ton. This would affect the mining and transporting companies in the other regions. It would not affect this region. .....The Wilkesbarre *Record of the Times*, alluding to coal trade prospects, says: But one thing we feel, and that is the reckless and insane competition between the large companies. What the policy, which underlies the beating-down process between Scranton, Carbondale and Pittston, is, we do not understand. It may be an effort to keep down prices a year or two more, till all the coal is secured and monopolized and the few companies control the mines and the markets, and then, purchasers, look out. The way anthracite coal is wasted is wicked, nothing less, and another generation must pay for the extravagance of the present. The Legislature of Pennsylvania will fail in its duty if it does not find some remedy for the evil suffered through the grants of enormous special privileges to these large corporations. No small owner or operator has any chance at all, but is crushed to death and swallowed whole by a great boa constrictor. It almost makes one favor a free railroad law, only that would not remedy the evil unless old companies, and all old stockholders in old companies are prohibited from making surveys and locating new roads under a heavy penalty, unless good faith is shown by completing them within the shortest possible space of time. .....Professor Eli Bowen writes to the *Standard* as follows: The Schuylkill coal basin is supposed to contain thirteen distinct seams of coal. At one time it was thought to embrace a hundred or more, but this originated in mistaking the different outcrops, where they only described saddles, for so many veins. The combustible qualities of the coal are divided into three classes, determined by the color of their ashes—the

lower veins producing white, the middle gray, or pink, and the upper red ashes. The first is prepared for smelting and puddling iron; the second for heating furnaces in houses, and the third for grates and cooking. But besides the marked difference in these three varieties in the economy of combustion, there is also a local difference in the character of the coal from the same veins; there is, in fact, all the difference in the qualities of coal that we find in different kinds of wood. Besides the distinguishing color of the ash, the coal graduates from a soft, semi-bituminous at the Susquehanna, to a free burner on the Swatara—a fine, compact and hard coal at the Schuylkill, to an exceedingly dense variety on the Lehigh (and this is the strongest anthracite coal found on the face of the globe.) North of the Schuylkill are the basins of the Mahanoy and Shamokin; while east of them are several small detached ones, as the Hazleton, Beaver Meadow, Buck Mountain, etc., all of whose coal (except the two former) is shipped over the Lehigh Canal and the Valley Railroad. The coal of the Mahanoy is drawn over the Broad Mountain by means of steam inclined planes, and reaches the Atlantic markets via the Schuylkill; that of Shamokin descends the Susquehanna river, or goes north via the Sunbury and Elmira railways.

North of all these basins lies that of Wyoming—beautiful alike for its unsurpassed scenery, its romantic settlement and history, and, to the geologist, for the regularity of its coal measures. Like the Schuylkill basin, it is about five miles in width, by nearly seventy in length. The Lackawanna Creek drains the eastern portion, and meets the Susquehanna river in the centre of the basin. Entering the valley from the north, the river abruptly changes its course towards the west, and then glides down the middle of it some ten miles below Wilkesbarre, where it again deviates from the canal, and passes through the Nanticoke Mountains. The coal of the Lackawanna has several outlets; the railway of the Pennsylvania Coal Company, the Delaware and Hudson Canal, and the Delaware, Lackawanna and Western Railroad, just completed, are the avenues to the Atlantic markets, while the North Branch Canal supplies the interior country north and west of Scranton. A cross-section of the Wyoming basin in the vicinity of Wilkesbarre exhibits five or six distinct but gently sloping axes, the southern one being comparatively level, and the coal lying near to the surface. The whole basin appears to be remarkably free from disturbances of any kind. In the vicinity of the Nanticoke, where the measures begin to rise towards their western termination, the veins of coal occur in great purity and extraordinary thickness; and the excavations of the Grand Tunnel, and those of the Baltimore Company near Wilkesbarre, are nothing short of a physical phenomenon. A stage coach, a locomotive and tram might be driven through the excavated avenues of these mines. The principal vein at Nanticoke is thirty-five feet thick, at Wilkesbarre twenty-eight, Pillston fourteen, and Scranton about ten feet. The veins, it thus appears, thin out towards their eastern termini, and most likely come closer together. The Baltimore mines have been worked for many years, and it is worth a journey across the Atlantic to see them. The great vein was at first operated in open quarry, but the covering having increased in thickness with the slope of the strata, it was found more economical to pursue the coal under ground, as in the case of the Lehigh mines. The measures having been thus cut down perpendicularly, six or seven openings were made into the coal, and up to the present moment we have been informed that about twenty-five acres have been excavated. Probably not more than two-thirds of the coal, however, has been removed, as it was necessary to have large masses of it remaining to support the overlying rock and soil. The light admitted by these openings reveals several acres of the interior, and there appears before you a stupendous forest of rounded pillars of coal. The scene thus portrayed is one of those things which neither pen nor pencil can portray; it must be seen. The roof is some twenty-five feet above the floor, and it is not only perfectly smooth, but often has the glossy polish peculiar to the laminated slates. The mine is free from water, and the air pure and invigorating. The cost of cutting the coal is as *near* nothing as a combination of favorable circumstances could approach, while there is apparently enough of it to supply the civilized world for ages to come. Indeed, a casual inspection of this monster vein, which also exists in the Schuylkill and some of the other basins, will dispel and allay all apprehension as to the exhaustibility of our boundless anthracite coal fields. But large as these fields are, they are but the mere outlyers of the still more stupendous coal formation of the Apalachian chain of mountains. This vast bituminous region, including the basins east and west of the Missouri river, contains at least twice the aggregate amount of workable coal of all the rest of the known world combined; and, lying as it does, mainly within the valley and tributaries of the Mississippi, its commercial value is entirely beyond the scope of arithmetical computation. The whole country from the Gulf of Mexico to that of the St. Lawrence and Newfoundland, originally comprised one grand coal field. Detatched portions of it are scattered along the Rio Grande and Chihuahua rivers in Mexico, as well as upon some of their branches in Texas. Numerous isolated beds occur on the Red and Arkansas rivers, while further north lies that of Missouri, separated from the Illinois only by the Mississippi and Missouri rivers. The southeastern point is pierced by the Ohio, and it approaches within some fifty miles of the Allegheny coal, which, lying in a position nearly north and south, runs parallel with the Atlantic plain for a distance of nearly 740 miles. On the eastern slope of the mountains are the isolated beds of North Carolina, Virginia, Maryland, and a portion of the semi-bituminous, bituminous and the great anthracite basis of Pennsylvania. It originally traversed portions of New York, and the New England States, where small deposits and traces of impure coal are found; but the invasion of the sea, in its northern course, has overflowed the beds, leaving those of the British Provinces literally to emerge from the large body of water which surrounds and covers them. Pennsylvania, of itself, has a greater area of coal than all England, Scotland, Ireland, Wales, Spain, France and Belgium united. * * * Pennsylvania has a surface of not quite 14,000, or nearly one-third of its whole area. Large as this body of coal land seems, some of the other States exceed it, though none of them have anything like the number of distinct coal veins or aggregate thickness of coal. It is estimated that we have in all the States of the Union upwards of 150,000 square miles of coal; but Pennsylvania is the only State which affords all the different varieties, as red, grey and white ash anthracite, and semi-bituminous, bituminous and cannel coal. Our anthracite fields are the greatest depositaries of that description of fossil fuel on the globe, and as they are nowhere surpassed in quality, quantity or accessibility of the coal, they must ultimately be looked to for the supplies of a large portion of the civilized world.

New Mexico.

A correspondent writing to the Santa Fe *Gazette* of Feb. 23, from Los Lunas, states that "a good many coal mines have been discovered about here, on both sides of the Rio Grande;" but he doesn't give any particulars with reference to them.

OIL.

Canada.

The Kingston *News*, March 1st, says with reference to the Waterloo well: Since the sinking of the new shaft, within a couple of feet of the first one, there have been fifteen feet of white clay bored through, sixty feet of blue clay, and forty feet of quicksand, making in all a hundred and fifteen feet, with no prospective impediment in the way of continuing the work. They have now reached what appears to have once been a lake shore, and are bringing up sand and gravel. The water at the present depth is slightly saline, and strongly impregnated with a disagreeable gaseous odor. The company are more sanguine of success than at any previous period of their labors, and stockholders are beginning to pay up promptly. The iron pipes have been found to answer admirably, and there is no fear of their being choked up with quicksand as the tubing was, this layer having been passed through and the pipes admitting of being driven down more rapidly.

California.

Artesian borings for oil in California have been almost entirely given up, and the plan of securing the seepage of the springs by means of tunnels adopted. .....The Marysville *Appeal* Feb. 1st says: We were shown a letter yesterday from one of the parties engaged in boring for oil in the Marcuse & Co.'s claims, which are located about 18 miles west of Colusa. The prospects of the company are represented as quite flattering. At a depth of 873 feet the well discharged daily from 500 to 600 barrels of water, which has changed lately from a salty, bitter taste, to a pure soda, sparkling and colorless. The well is also so strongly charged with gas as to clean itself of all chips, rendering sand pumps unnecessary. The success of the Colusa oil wells is as strongly hoped for as the general richness of the main quartz ledge at Brown's valley.

MISCELLANEOUS.

Missouri.

St. Louis, March 16, 1867.

Editor Journal of Mining:

Sir—Press of business has prevented my visiting you for some time, and I regret to see that so little pains is taken to furnish your valuable journal with mining news from Missouri. The truth need only be told to induce a large influx both of capital and labor. This State has been but imperfectly explored, yet in nearly every county valuable minerals have been found, many of them in almost inexhaustible quantities. Thirty-one varieties of mineral have been discovered, which, commencing with the most important and extensive, are as follows: Iron, coal, lead, zinc, copper, platina, kaoline, hydraulic cement, nickel, cobalt, metallic paints, emery, plumbago, silver, gold, salt, sulphur, petroleum, silica, granite, marble, fire-clay, fire-rock, chalcedony, agate, jasper, alabaster pipe-clay, saltpetre, manganese and tin. Iron ore has been found in thirty-six counties, but is principally worked in four. Coal is found in forty counties, of which nine alone are estimated to contain 38,000,000,000 tons. Lead has been found in thirty-eight, and copper in eighteen counties. We have the finest quality of every material used in the manufacture of glass. The opening of the Chester coal fields, 72 miles below St. Louis, will supply the only desideratum the want of which has hitherto prevented glass works from locating here. Our fire-clay is said to be equal to the best German. A discovery of meerschaum, similar in appearance to that found in Europe, is said to have been recently made in Franklin county. Near Pilot Knob there is a quarry of fire-rock used in iron furnaces, and proves the most durable material that can be found. Our iron ores comprise the red and brown hematite and the spathic. Some of our native raw ore, hammered into horse shoes and horse shoe nails, was exhibited at the St. Louis county fair last fall. There is much excitement over the late discovery of petroleum in Ray county. The Gaty well is situated about 20 miles north of Lexington, and 13 east of Richmond. The well is about 400 feet deep, and pumps 100 barrels per day. The product is of the best quality, and superior to that of Western Virginia as a lubricating oil, because it contains no grit, and needs no preparation to fit it for market. Its gravity is 29½, by U. S. hydrometer. Various other wells are being sunk in this county, and there is much speculation in lands. Lately, in Mexico, Mo., two fine veins of coal were struck by parties digging a well. The first vein was at a depth of 58 feet, the second at a depth of 79 feet from the surface. Fine copper has recently been found in the vicinity of Neosho, where hitherto only lead has been mined. Seven miles northwest of Springfield a cave was discovered a short time since, of the extent and magnificence of which marvellous stories are told. One of its chambers is described as vastly larger, higher, grander than any in the Mammoth or any other known cave in the world—its stalactites and stalagmites as of wrought marble—its crystals white as the driven snow. It is several miles in extent, and in it fountains of living, limpid waters abound. It contains immense deposits of saltpetre earth, as do most of the caves in this State. But this is eclipsed in practical value by a cave full of lead which has been found by Mr. William Gallagher, on his farm, near Stanton, in Franklin county, in Sec. 19, T. 41, R. 2W. The entrance is on a perpendicular bluff on the Meramec river, 60 feet wide and 40 feet high, and as you go in narrows rapidly to an average height and width of 10 feet. You enter from the south, and go north-west 80 yards, then turn and go south-east 100 yards, then directly north. Within 30 feet the cave narrows down to a flat opening about 18 inches high and 6 feet wide. A stream of water flows through this vein, which appears to have washed out all the clay, and left immense masses of mineral in the greatest disorder, piled one on the other. You can go east in this crevice 75 feet, and go west 100 feet, and can climb over the mineral to a height of 75 feet, where the opening becomes solid mineral. The value of the lead actually in sight is estimated at $100,000, but of course it is impossible to make a correct calculation on the worth of this discovery at present. The ore has been contracted for by parties in this city, and money advanced to get it out. As the work progresses I will advise you of the result.

Frank H. Fletcher.

New Desulphurizing Process.

The Nevada (Cal.) *Transcript* says: W. R. Oliver, of Forest Hill, is in this city, introducing a process for desulphurization, for which he claims almost magic powers. He says he can work a ton of the most refractory sulphurets in from one and a half to two hours, extracting in that time all the precious metals. His process has been used in several of the cement mills in Little York township. He has sold 453 receipts, and claims that he can satisfy any man of the efficacy of this method. If it does what he claims for it, it should be possessed by every man in the State.

The Atlantic Coast Rising.

A Nova Scotia paper, in reporting the proceedings at a recent scientific meeting, says: It was stated that in some places in Nova Scotia, inland, and at Cape Breton, the various levels at which the water had for some time remained, could be easily traced, and sea shells obtained. Facts were stated to show that the Atlantic coast was slowly rising. There is at Peggy's Cove, St. Margaret's Bay, a cavity in the rock now far above the influence of the tide, inside of which are rocks rounded by the action of the waves, thus affording this proof—and other instances occur on the shores of that bay.

Look at that beautiful butterfly, and learn from it to trust in God. One might wonder where it could live in tempestuous nights, in the whirlwind, or in the stormy day; but I have noticed it is safe and dry under the broad leaf, while rivers have been often flooded, and the mountain oaks torn up from their roots.

AMERICAN
Journal of Mining.
[ILLUSTRATED.]

GEORGE FRANCIS DAWSON,
EDITOR

By publishing contributions, the JOURNAL OF MINING *does not necessarily endorse the positions assumed by contributors.*

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☞ Correspondents, exchanges and others addressing us should be *extremly careful* to write "JOURNAL OF MINING," instead of MINING JOURNAL," to ensure safe carriage.

NEW YORK, SATURDAY, MARCH 23.

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ORIGINAL PAPERS—The Manufacture of Mineral Oils from Coal and other Bituminous Substances, No. 2.—Amalgamation, No. 5.
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SLATE TRADE REPORTS.
SPECIAL SCIENTIFIC BREVITIES.
ALL SORTS.
PATENT CLAIMS.

TO OUR SUBSCRIBERS.

As a large number of subscriptions to the JOURNAL OF MINING are about to expire, and it will greatly facilitate the making out and classification of our lists of addresses in time for Volume III—*when the paper will be enlarged by the addition of four more pages*—we trust that subscribers will at once send on their remittances for the ensuing year. For the information of those who have not yet subscribed, we will state that the price will remain as heretofore, viz.: $4 00 per annum.

TAKE NOTICE.

That on and after the 30th inst., the AMERICAN JOURNAL OF MINING *will be enlarged to* TWENTY PAGES. Its rapidly increasing circulation and advertising patronage fully justify this step, which will doubtless be as acceptable to our many subscribers as it is to us, as we shall thereby be able to give to them each week a greater number of original papers, and other interesting and valuable reading matter. On that date the JOURNAL will enter upon its Third Volume; and we hope by that time to receive a large accession of NEW subscriptions. We are glad to know that all our old subscribers take so lively an interest as their numerous letters prove, in the unexampled prosperity of this paper, and we hope that all our readers will show it to their friends, and get *them* to subscribe for the coming year. We wish them to work for the JOURNAL, so as to enable us still farther to increase our sphere of usefulness. The more they do for us, the more we shall do for them, as it is our purpose to keep on enlarging and improving the JOURNAL, just as fast as its increasing patronage shall warrant it.

A DANGEROUS MONTANA "WILD-CAT" IN PHILADELPHIA.

We observe in the Philadelphia *News* a long "sensation" advertisement as to the Hubbell and Patton Gold and Silver Company of that city, and its mines in Montana, which we consider it our duty to briefly notice. In great display letters and figures, it informs the reader that Montana is the "richest Gold Region in the World"—a statement rather sweeping to commence with—and that her "credited production last year" was "$18,000,000 in gold," but that her "actual production last year" was "$33,000,000, *exceeding California, Nevada, Colorado, Australia, etc.*" Regular readers of the JOURNAL OF MINING are of course aware that the yield of Montana in 1866 was $16,000,000; and they will laugh outright at the ridiculous assumption of more than double that amount as her "actual yield," and at the unblushing presumption which places her at the head of all the great gold-producing regions of the earth. But there are thousands of occasional readers in Philadelphia and elsewhere, who are not quite so well informed on such subjects as they would be were they constant readers of this paper, and we desire to warn all such against investing in any scheme like the one under consideration. It starts out with falsehood at its head, and how can any sane person expect to find much truth in its nether parts? Perhaps, however, we can evolve a little therefrom. Let us see: After these flaming and deceptive headings, the advertisement calls the attention of capitalists and others to the "magnitude, legitimacy and unparalleled fairness"—not "of the *mining operation*" but—"of the following *guaranteed statement.*" As to the "fairness" we shall allude to that anon; as to its "legitimacy," what we have already written casts a decided cloud upon it; but as to the "magnitude" *of the statement* there cannot be the shadow of a doubt. In fact "the statement" is of far greater "magnitude" than the facts seem to warrant. Following is the body of the advertisement, which we insert *gratis:*

This Company is founded upon the ownership of 11,960 feet of Gold Lodes (including 900 feet Silver Lodes) in Montana Territory, with perfect titles paid in stock, 7,850 feet being situate on Trout Creek, the richest district in the territory, yielding $150 to the ton assay, opposite New York city, within twenty miles of Helena City. Capital, $1,000,000, in 20,000 shares at $50 each. The only stock to be disposed of is 2,500 shares preferred, to be used exclusively as a working capital, issued at $20 per share; full paid, liable to no further assessment, and to be subscribed only upon the following conditions:

1st. That said $50,000 subscribed in currency on the preferred 2,500 shares shall be returned in gold, as dividends on said preferred stock, out of the first $100,000 net produced by the company.

2d. That said company shall have thirteen directors under their charter, nine of whom, out of said thirteen, shall be elected from the subscribers to the said 2,500 shares of preferred stock.

3d. That said $50,000 shall be deposited in the First National Bank of Philadelphia, and no part thereof can be drawn or used unless by authority and approval of the Board of Directors.

4th. That officers of the company receive no salary or emolument whatever, until the said $50,000 is paid back to the subscribers in full, in gold.

5th. That the Hubbell and Patton Crushing Machine and Amalgamator, immensely valuable inventions, belong to this company expressly. No other company has been privileged to use them. The crusher's wonderful power equals a mill of forty stamps in tons reduced, and releases by its superior pulverization about twice as much gold per ton. A forty stamp mill would cost about $100,000; this machine costs but $5,000.

6th. That said 2,500 shares preferred stock, with its dividend, is a better security than a first mortgage on the immensely valued mines and machinery of the company.

7th. The mines of this company, from ascertained facts, as to width and richness of the lodes or ores, are estimated to contain, to the depth of only 1,000 feet, at least 1,327,777 cubic yards of ore, which will yield about $200 per yard, amounting to $265,555,400.

The 2,500 shares to be disposed of at $20 per share, *when* disposed of, will bring in $50,000 in greenbacks. When that amount is on hand the 20,000 shares will have a market value of $2.50 per share, and the persons who hold the un-"preferred" 17,500 shares can sell out at that rate, and thus clear $42,750 by the operation! This they could do whether there was any bottom to the mines or not. A very pretty "speculation" truly. As to the four first sections, they amount to nothing at all if the mines are not valuable. As to the fifth, we never heard of "the Hubbell and Patton Crushing Machine and Amalgamator," nor of its "wonderful power;" nor do we believe that any machine, costing but $5,000, can do the work of a $100,000 forty-stamp mill. That is sheer nonsense. However, we do not doubt that the company's mines have been "*estimated*" to contain to the depth of *only* 1,000 feet, *at least* 1,327,777 cubic yards of ore, which will yield about $200 per yard, amounting to $265,555,400." We have no doubt but that such an estimate has been made, nor do we doubt that the person making it was an impostor. The whole thing is plainly a scheme to swindle people out of their money, and we believe that neither the "mines" nor the "machinery" are worthy of attention. Montana has gold and silver mines rich as any in the world perhaps, and plenty of them; but these particular ones do not seem to have "the ring of the true metal." Indeed the advertisement itself acknowledges in section six, that both they and the machinery are over-valued—at least that is how we construe the expression "*immensely valued* mines and machinery." Take it all in all, it is a very remarkable scheme, and one, which, whether there are mines at the bottom of it or not, may fairly be classed as of the *genus* "Wild-Cat." Just such schemes as these have injured Nevada and Colorado almost irretrievably. We trust Montana will not be the next victim.

MACHINERY vs. HAND-LABOR, IN COAL AND OTHER MINES.

From our British exchanges, and an advertisement published in another column, we find that some of the coal capitalists of England are offering premiums for the best coal channeling machines—an example that we trust will not be lost upon our own coal mine owners. The Association of South Lancashire and Cheshire colliery proprietors offer three prizes—of £500, £200, and £100 respectively—for the three best machines for cutting coal, which must be submitted by Nov. 1st, 1867. A Committee, already appointed, will then test them, and by May, 1868, make their award thereon. This Committee have issued regulations for the guidance of competitors, wherein they give their opinion that "compressed air is the proper motive-power for working coal-cutting machinery," and state that "machinery for compressing air is already erected at several colleries at Wigan, and will be placed at the service of inventors." The Committee reserve power not to award any premium unless they are satisfied with the performance and capabilities of the machine. Machines must be adapted to the following requirements:

Thickness of seams, from 2 to 9 feet; dip or inclination, from horizontal to an angle of 20°; as to the weight of machine, lightness and easiness of movement desirable; maximum size of tub or wagon used in the mines, 3' 6" x 3' 0" and 3 feet in height; gauge of road, from 1' 6" to 2' 3".

And inventors taking a prize are bound by the following condition:

No annual payment, or tonnage royalty, as patent right, shall be charged to any present or future member of the above association, but that such member shall pay a patent right on the purchase of each machine, to include the working thereof, which patent right shall in no case exceed 50 per cent. of the cost of the machine.

By this offer the members of the Association will first ascertain the best machine, and then buy the right to use it at not more than 50 per cent. on the cost thereof, which saving clause will far more than reimburse them for the outlay in premiums; while Inventors are afforded every facility for a fair competitive test, a good sale for the fortunate machines to the members of the Association,

and a splendid market at their own prices outside of such members. We have no doubt that some of our American coal-cutters will compete; and we should like to see a similar movement on the part of American coal-mine owners, to encourage the development of coal-cutting by machinery. So also with regard to machinery for drilling blast-holes, for tunneling and other operations in gold, silver, copper and other mines. In fact, if private individuals will not club together and offer premiums for improved mine-machinery, it would be a good move for Congress to make a special appropriation for the purpose, and authorize the competitive test to be made under the management of the American Institute in New York or the Smithsonian Institute in Washington.

MEETINGS.

New York and Boston Silver Lead Company, annual, at 22 William street, March 26, between 1 and 2 P.M.; Twin River Silver Mining Company, at 26 Nassau street, March 29, between 12 and 2 P.M.; American Oil and Mining Company, at 22 William street, April 4, 12 M.; Enterprise Petroleum Company, at 40 South Third street, Philadelphia, April 2, 9 A.M.; Philadelphia and Cherry Run Petroleum Company, at 40 South Third street, April 2, 9 A.M.; Westmorland Coal Company, at 230 South Third street, April 3, 12 M.; Cambria Iron Company, at 400 Chestnut street, Philadelphia, April 23, 4 P.M.; Tiger Gold Mining Company, at Witherell House, April 15, 7½ P.M.; Downieville Gold Mining Company, at 62 Broadway, N. Y., March 26, 11 A.M.; Boston Copper Company, at 24 City Exchange, Boston, March 26, 12 M., Allouez Mining Company, at 60 City Exchange, April 9, 10 A.M.; Silver Creek Mining Company, at 60 City Exchange, April 1, 10 A.M.; Everett Mining Company, at 23 City Exchange, Boston, March 26, 10 A.M.; Georges Creek Coal and Iron Company, at 19 South street, Baltimore, Md., April 2, between 1 and 2 P.M.

NEW PUBLICATIONS.

COAL, IRON AND OIL. By Daddow and Bannan. Pottsville, Pa.

We are in receipt of the large and comprehensive volume bearing the above title, as to the merits of which we shall be better prepared to speak at length in our next issue.

QUICKSILVER MINING CO., REPORT FOR 1866.

A fifty-five page pamphlet relative to the operations of this company, with amounts o quicksilver production throughout the world—which we shall condense for next week's mining summary.

MINING AND MILLING IN THE REESE RIVER REGION CENTRAL AND SOUTHWESTERN NEVADA. By M. Blatchley, M. E.

A careful and thorough paper, in pamphlet form, 48 pages, containing remarks upon the geology, mineralogy and "veinology" of that region, instructions to superintendents of mines, and much other valuable information for all interested in Nevada silver mining.

Scientific Meetings.

GERMAN POLYTECHNIC INSTITUTE.

SUB-AQUEOUS TUNNELING—DISTILLERY MASH LIFTERS.

This association met Friday, March 15th, 1867, President W. HUAFF in the chair.

A discussion arose on the new English system of building tunnels under rivers, according to which the masonry is built up, inside and outside, around a cylinder of sheet-iron, and then the whole structure at once sunk into the water,

A question then was asked with regard to the practicability of a "Montejus," of a new design for the purpose of lifting mash, etc., in distilleries. After some discussion upon the subject, the design was rejected. Mr. Kinkel mentioned the syphon, pump, as manufactured by the Steam Syphon Pump Company in New York, which lifts water to a height of from 60 to 80 feet, by the direct action of a steamjet on water in a vessel, which extends into a pipe. The length of this pipe can be changed at will.

AMERICAN INSTITUTE—POLYTECHNIC BRANCH.

FENIAN FIRE—ABSORPTION OE HYDROGEN BY COPPER—NEW PRINTING MACHINES—STEAM PLOUGHS—VENTILATORS—THE GOLD SUPPLY.

On Thursday evening, at the meeting of the Polytechnic, Prof. Tillman described the chemical composition of the Fenian fire. It consists of phosphorus dissolved in bisulphide of carbon, the vapor of which ignites on exposure to the air. He also expressed an opinion that copper, in a state of fusion, absorbs hydrogen. Mr. Buel exhibited a model of a new printing machine, intended chiefly to facilitate copying. It may, however, be used to print circulars, and almost everything used in offices. The type are arranged in a circle, all meeting in a common centre. They are inked by a riband, as in the common die stamp. They are acted upon by a set of keys, such as are used in pianos. The operator strikes a key, and thereby raises a letter which prints a character on the paper. The rapidity and accuracy with which this may be done is amazing, depending solely on the expertness of those using the machine. A great advantage is gained by arranging in the centre of the keyboard, those letters, and combinations of letters, which most frequently occur. Specimens of the work were handed round, and were much admired by the audience. Such machines are certain eventually to supersede the present system of copying, which is in practice in law offices, &c. Mr. Boyd Eliot explained the construction of a similar machine, intended to form a matrix for stereotypes, by making impressions in thick soft paper of the letters, words and characters.

Mr. Willard explained the construction of a new steam plough, the most remarkable feature of which is, as was stated by the chairman, that the spades assist, instead of impeding its progress. Mr. Eliot warned future improvers of this valuable machine against the danger of so constructing it, that rollers preceding it beat out a road, thereby increasing the difficulty of turning up the earth. Prof. Tillman said that there is an objection even to horses walking in the course of the plough, and that in England these machines are drawn by a stationary engine and wire ropes. Mr. Horton submitted a model of an improved chimney ventilator, in principle similar to many others already well known.

Dr. R. P. Stevens read a paper on gold, in which he accounted for the small quantity of that metal in circulation in this country. Of all the gold produced in the States, 15 per cent. is employed in manufactures; 35 per cent. goes to Europe; 25 per cent. to Cuba and Brazil, and 5 per cent. to China. A great quantity of this goes to the East, where it is lost to commerce in being melted down to form trinkets. It is said that the loss sustained by hiding gold amounts in India to 30 per cent. The reason why this bullion does not remain in civilized society is, that men exchange it for what is more valuable. The miner exchanges it for the necessaries of life. In New York gold is twice as valuable as in Nevada, and in India fifteen times more so than in the placers. The quantity of gold in the world at the time of the discovery of America amounted to $170,000,000; a century later it had increased to $690,000,000; at the commencement of this century it was calculated to be $6,500,000,000. He then stated that it was his opinion that, in this country, there will be enough of gold for the next thousand years.

Correspondence.

[To insure insertion of Correspondence in our columns the full name and address of the writer must be given.]

From the Clausthal School of Mines—The Lecture Course, etc.—Consumption of Beer—Duels on the Tapis.

EDITOR JOURNAL OF MINING:

SIR—The following extract from a letter recently written to me by a young American student at the Clausthal Mining School, may interest and perhaps amuse many of your readers, and is at your service: F.

* * * The course laid down at the academy for those students who are to enter the government service is one of four years, preceded by a practical course of six months in the mines, dressing and smelting works. The course pursued by the other students, and the length of time they remain is entirely optional. I have marked out a two years' course, and this year I am attending lectures on Iron Smelting, Mining Constructions, Mineralogy, Geology, Chemistry, Stochiometry, Blowpipe, Analysis and Physics. I go to work in the mines on Friday mornings at four and stay until one; at present I am working with the drill, and have made such progress that I can earn about 12½ cents during the shift. Next summer I expect to get into one of the iron furnaces in the Harz. Kerl, our Professor of Metallurgy, is without doubt one of the best in Germany; he has written a great deal on the subject, and is a man of some reputation. I think your plan of visiting the English works is a very good one, and I should like above all things to do so after leaving here. Do you not think it would be well, if an opportunity offered, to work there for a short time? I have seen two or three copies of the AMERICAN JOURNAL OF MINING, and I should like very much, indeed, to receive it. The students have attempted to carry out the university customs, but owing to the number—thirty are told—they but partially succeed. There is a "Verbindung" called the Hercynia, but according to the regulations governing the formation of such bodies, a corps cannot exist alone—*e.i.*, there must be two or more to oppose one another. However, as there is a great deal of beer consumed, and several duels are to take place soon, I suppose the same results are reached.

Original Papers.

[WRITTEN FOR THE JOURNAL OF MINING.]

The Manufacture of Mineral Oils from Coal and Other Bituminous Substances—No. 2.

Murdoch made use of iron retorts, and conveyed the gas through iron and copper pipes, in lengths of 70 feet. In a treatise on gas-lighting, published by him in 1805, the purification of the gas is detailed, and a description of the different burners then in use, given. He also gave calculations of cost, demonstrating therefrom that illumination by gas was much cheaper than by candles. For separating the tar, and for further purification, Murdoch experimented also by forcing the gas through different liquids. Horizontal retorts, similar to those of the present day, were first used by him. At this time Winsor introduced gas illumination in London. In 1813, Westminster bridge was illuminated for the first time, and two years later the invention was introduced in Paris. From this date, until 1824, some of the most important discoveries in this branch were made, such as the manufacture of gas from oil, (in 1815, by John Taylor,) from rosin, (by Prof. Daniell,) and the fabrication of transportable gas, (by David Gordon in 1819.) But it was not before 1830 that correct views relative to close distillation of organic substances, were given. We shall forever be indebted to Reichenbach for the information given us on this highly interesting subject, and indeed his name will ever be coupled with the early history of the production of oils from bituminous matters. While examining the results of the dry-distillation of beech wood, he discovered paraffin, naphthalin, kreosote, piccamar, and pittakal—substances also found a few years later in the tarry matters of bitumens, and ultimately in those of coal. Photogenic oils from bituminous shales were first extracted by Sellique in France, and Jobard in Belgium, and several results of Sellique's labors, such as lubricating oils, crude and purified mineral wax or paraffin, and photogenic fluids, were exhibited by him at the Industrial Exhibition at Paris in 1839. Improvements in the distilling apparatus were made in the meantime by Hompesch, Beslay, Rouen, and Gengembre of New York city. In 1849, Reece was occupied in extracting paraffin and various oils by the subjection of peat to distillation. So far this industry had developed itself in Europe in 1849. In the United States the first successful attempt at the production of mineral oils from coal, was made by Salomon Gessner, who, in 1846, burned the same in his public lectures at Prince Edward's Island and

in Halifax, Nova Scotia. Some time afterwards he sold his patents therefor to the North American Gas Light Company, which erected works on Newtown Creek, Long Island, and brought the new photogenic fluids to the attention of the trade under the name of kerosene, a word derived from the Greek, signifying "wax oil." Mansfield, at the close of 1847, obtained a patent for the separation and purification of volatile liquids from tar. He introduced benzole into the English market, to supplant turpentine in dissolving caoutchouc, and pointed out its property of rendering air or gases luminous when forced through it. Naphthalized gas, as it was termed, soon became an article in domestic use. Although Reichenbach already had shown how to prepare oils from vegetable and tarry matters and pit coal, the products were always so small that it seemed hardly worth while to establish even moderate factories. Reichenbach writes in 1854: "So remained paraffin until this hour, a beautiful item in the collection of chemical preparations, but it has never escaped from the room of the scientific man." Only since the year 1850 has its manufacture been established on a remunerative basis, and this was due to James Young, of Manchester, England, by whose process, from 100 parts of Cannel coal 40 per cent. of oil and 10 per cent. of paraffin were obtained. His patents (issued October 7, 1850, in England, and March 23, 1852, in the United States,) were the object of many law-suits, particularly in this country. What James Young claimed, says Prof. Antisell, was "the production of paraffin oils—not the production of naphtha or benzole, nor naphthalin, but paraffin and its congeners; this involves the slower distillation of coals at a lower temperature than had been hitherto effected, and this novelty in practice was followed by the novel result of a copious production of isomeric liquid hydrocarbons; so that really two great results were first demonstrated by the operation of Young's process, viz.: 1st. That coal was a material from which liquids could be manufactured economically, as tar, bitumens and schists, had been hitherto employed; and, 2d. That the liquids so formed were paraffin, containing compounds." Of especial importance to the manufacture of mineral oils was the invention by Col. Drake, of the method of obtaining petroleum, by boring wells. From the beginning coal-oil distillers objected to petroleum, "because," said they, "it gives no better light, and costs more than coal-oils;" but soon this fallacy was exploded, and the making of burning fluids from petroleum has grown to gigantic proportions.

[TO BE CONTINUED.]

[TRANSLATED FOR THE JOURNAL OF MINING.]

AMALGAMATION—No. V.

By J. H. TIEMANN, M. E.

The simplest way to prove the existence of chloride of silver in the roasted mass, is to pour a concentrated solution of salt over a little of the substance in a filter, and allow it to drop into water. When chloride of silver is present, it dissolves in the solution of salt, and again precipitates when dropped into the water. The precipitate may be then tested before the blowpipe. Lampadius was much surprised at the discovery, it was in direct opposition to all preconceived ideas; he proved beyond a doubt that the silver came into the barrels as hornsilver, and not as metallic silver, and that although the former amalgamated directly with much more difficulty than the latter, yet in the amalgamation of ores and mill products, chloride of silver was an absolute necessity for the success of the process, and he ascribed it to the elective affinity produced by the contact of hornsilver, quicksilver and iron in the barrels, and which appeared much stronger than the simple affinity of metallic silver for quicksilver. He supposed that the chloride of silver—thought at that time to be a combination of oxyd of silver with hydrochloric acid—was deprived of its oxygen and acid by the iron plates, and changed to metallic silver, which was taken up by the quicksilver, but that it exerted no further influence on the process. The addition of water to the mass in the barrels seemed to have merely the double object, first, to dissolve a portion of the salts, thus freeing the silver, and second, to give the mass such a consistence as to allow the quicksilver and iron to move freely through it. There were still doubts concerning the correctness of this theory, founded upon the imperfect and unequal character of the mass in the barrels. A casual observation will scarcely allow of the supposition that the extraction of the silver can be completed in such a short time, scarcely 12 hours, and at a temperature from 20° to at most 30° Reaumer, by chemical affinity alone. It is impossible for all the particles of hornsilver to come into contact with the iron and quicksilver, for these metals are too unequally dispersed, and the hornsilver is too much enveloped by the ore. But even if every particle of silver did come into contact with the iron and quicksilver, the contact would be much too fugitive for the protracted and actual decomposition which takes place. These observations lead to the conviction, that the rapidity and perfection of the silver amalgamation is the result of a galvanic action, which is disseminated through the whole mass. A little experiment shows how easily hornsilver may be decomposed by galvanic action. It is only necessary to put the hornsilver into a copper vessel, with the addition of a little water, and to bring an iron rod into contact with the vessel; a powder gradually settles to the bottom, which is metallic silver with a very slight coating of hornsilver, which often hides the metallic look of the silver. That it really is metallic silver, may be proven by digesting it with caustic ammonia, when traces are dissolved (chloride), the largest portion remaining behind, which readily dissolves in nitric acid. From this solution it may be again precipated as hornsilver, by the addition of hydrochloric acid. This reduction also occurs when quicksilver is used, instead of copper—the only difference is that the silver in the latter case immediately forms an amalgam with the quicksilver. This amalgamation is more perfect, and more easily effected, than the direct amalgamation with hornsilver, or even with metallic silver. By the continuous galvanic action the hornsilver is decomposed; the electro-positive component (silver) unites with the electro-negative metal (quicksilver), while the electro-negative component (chlorine) unites with the electro-positive metal (iron), and the process continues with an increase of temperature peculiar to all electric discharges, and which in itself accelerates the process. A direct contact of the iron and hornsilver is not at all necessary for the decomposition of the latter; the water is the vehicle by which the chlorine is conducted to the iron; it is the medium by which the electricity is continually excited and conducted. The decomposition and amalgamation is still more energetic, when a solution of sea salt or glauber salt is used instead of pure water. In the former case the quicksilver is converted into amalgam in a short time, but without any outward action, in the latter case a strong pulsation is often perceptible. This phenomenon is very remarkable. The mass is violently agitated, and the particles of hornsilver fairly dance in the liquid, and strive eagerly to reach the iron, in the neighborhood of which the reaction is the most energetic. It is not always possible to produce this reaction fully; however, it seems as if a certain quantative relation of the concurrent substances were necessary to produce it. It occurs furthermore when the iron is removed, though as a rule the mass becomes quiet again immediately. All these small and easily tried experiments, sufficiently indicate the purely galvanic nature of our amalgamation, and only in this way can we explain the possibility of extracting such a small amount of silver, compared with the whole mass, in such a short time by mere agitation, without artificial heat. With such views the liquid in the barrels engages the closest attention. It is no longer merely a solvent and dilutant, by means of which the silver, quicksilver and iron are brought mechanically into contract; it seems to exercise a mighty secret power, and to be particularly necessary for the maintenance of the electrical process. Whether the liquid shall consist of pure water, or of acidulated water, or shall contain salts, and what acids and salts, and in what degree of concentration, these are all questions of importance, upon which depend the quicker or slower, and the perfect or imperfect success of the amalgamation. It has been remarked that the decomposition and amalgamation takes places more rapidly and perfectly, when the liquid consists of sea salt or glauber salt in solution, instead of pure water. The reaction is still more energetic when a free acid is added to the water. In the same proportion as free acid is added, the reaction and temperature of the mass increases, but the extraction of the silver which is at first very rapid and energetic, ceases long before all the silver has been abstracted, especially when sulphuric or nitric acid is used. It frequently occurs that when the mixture contains much free acid, the mass in the barrels becomes very warm, or it pulsates strongly, and still yields very little amalgam, while other mixtures with less free acid, remain cool or show no outward action, but yield a richer amalgam. The amalgam liquid as formed by the European process, consists principally of glauber salt and some sea salt, with some sulphates of manganese, zinc and earths, leading to the supposition that it is most suitable to the process, as it works steadily though not energetically. This subject, however, has been too little investigated, leaving plenty of room for further experiments—for example, an addition of acetic acid, alumn or chloride of ammonium to the liquid, seems to give additional power. So much is evident, that when the liquid contains a large amount of sulphates, it is detrimental. They increase the working power for a time, but induce an early cessation of the process, and create a temperature which is injurious to the quicksilver.

[TO BE CONTINUED.]

MARKET REVIEW.

FRIDAY EVENING.

Gold and Silver Stocks—Were quite active during the week at higher figures. Consolidated Gregory, however, shows a decline of $1, and Quartz Hill 35c.

	March 15.		March 22.	
	Offered.	Asked.	Offered.	Asked.
Alameda	7 00	7 10	7 40	7 65
American Flag	90	1 10	90	1 00
Atlantic and Pacific	2 00	2 25	2 25	2 35
Bates & Baxter Gold	1 70	2 00	1 50	2 00
Benton Gold	1 70	1 75	1 25	1 60
Bobtail Gold	....	3 00	....	3 00
Boscobel Silver	....	4 50	....	5 00
Bullion Consolidated	....	1 50	....	1 50
Burroughs Gold	....	26	....	30
Central Gold	....	20	4	6
Crozier Gold	....	12	....	13
Columbian G. & S.	2 75	2 85	3 00	3 05
Consolidated Colorado	....	15	3	8
Consolidated Gregory	12 20	12 30	11 15	11 25
Corydon	....	....	3 75	3 80
Des Moines Gold	....	1 75	35	40
Downieville Gold	....	10	6	12
Gilpin Gold	....	3 00	....	3 00
Gold Hill	....	4 00	3 00	4 00
Gunnell Gold	4 50	4 75	5 00	5 25
Gunnell Union	51	55	50	54
Holman	15	....	15	20
Hope Gold	40	50	25	45
Keystone Silver	5	6	4	6
Kipp & Buell Gold	55	75	60	75
La Crosse Gold	50	65	45	55
Liebig	....	1 00	....	1 00
Liberty Gold	7	9	6	7
Montana Gold	35	45	....	50
New York	1 00	1 25	1 00	1 15
Nye Gold	....	8	6	8
People's G. & S. of Cal.	1 10	1 50	1 00	1 75
Quartz Hill	3 90	4 00	3 50	3 55
Reynolds Gold	....	8	....	10
Rocky Mountain Gold	1 00	1 45	1 00	....
Smith & Parmelee Gold	6 10	6 20	6 00	6 15
Sensenderferfor	25 00	29 00	....	30 00

Symonds Fork	1 50	2 00	....	1 75
Texas Gold	....	3 30	....	....
Yellow Jacket	....	10	....	7

At the first board the following were the sales: Columbia Gold and Silver, 600 at $3; Codsolidated Gregory, 600 at $11 35@11 40; 1,500 same s. 30 at $11 25@11 30; 100 same s. 3 $11 25; Corydon, 900 at $3 75@3 80; Desmoines, 100 c. 40c.; Peoples' Gold and Silver, 100 $1 25; Quartz Hill, 200 at $3 55; 100 b. 3 and 100 s. 3 at same rate. Ohio and Colorado, 1,000 at 55c. At second call 200 shares of Columbia Gold and Silver brought $3; 100 same b. 10, $3 05; 100 s. 3 $3; Consolidated Gregory, 400 at $11 05@11 10; 300 b. 3 at $11 05@11 15; 300 same s. 30 at $11@11 15; 400 same s. 3 at $11 10@11 15; 100 same b. $10@11 20; Corydon, 300 at $3 80; 300 same b. 30 $3 90; Quartz Hill, 200 at $3 50@3 55, Des Moines, 200 c. 30c.; Alamedan, 100 c. $7 50; 100 same b. 3 at $7 55; American Flag, 100 at $1 05.

Sales were as follows at the second board: Benton, 100 at $1 25; Columbia Gold and Silver, 200 at $3 05; 400 same b. 3 at $3 05; 200 b. 10 at $3 10; 200 s. 3 at $3 05; Consolidated Gregory, 300 at $11 25; 300 s. 3 at $11 20@11 25; Corydon, 700 at $4; 600 same b. 30 $4 10@4 15; Keystone Silver, 1,000 at 4c.; Alameda Silver, 100 at $7 60; 100 b. 3 and 100 s. 3 at same figure; 300 Quartz Hill at $3 50; 100 same b. 10 at same. At second call 300 Alameda at $7 65; 300 same s. 3 at $7 60@7 65; 100 same b. 3 at same; Consolidated Gregory, 200 at $11 15@11 20; 100 same s. 3 at $11 20; Corydon, 100 at $4 10; 100 same b. 30, and 100 b. 10 at $4 15: 100 same s. 3 at $4.

Copper Stocks.—The leading stocks were unusually active at lower rates at the first board to-day. The following were the sales: 100 Canada at 50c.; 500 Charter Oak at $1.55; 1,000 Davidson, s.30, at $1.40, and 1,000, b.30, at $1.45. At second call, 100 Charter Oak at $1.57, and 100 Davidson at $1.45. At second call at second board, 500 Davidson sold at $1.45.

	March 15.		March 22.	
	OFFERED.	ASKED.	OFFERED.	ASKED.
Caledonia	....	15 00	....	10 00
Canada Copper	50	75	50	....
Charter Oak Copper	1 48	1 52	1 50	....
Davidson Copper	1 30	1 45	1 45	1 45
Dgima	....	5 00	....	....

Lead Stocks.—400 shares of Walkill were sold at 64@65c. at first board to-day, a slight advance from last week's quotations.

Petroleum Stocks.—But few transactions are reported. A better feeling was exhibited during the week, and, as a consequence, an advance in prices was the result. 100 shares of Benneboff Run sold at $2.50 at the first board, and 2,000 of Cherry Run Special at 14c.

	March 15.		March 22.	
	Offered.	Asked.	Offered.	Asked.
Bennehoff Run	2 25	2 35	2 00	2 75
Buchanan Farm	....	20	10	18
Central	75	90	70	90
Clinton Oil	1 00	1 50	90	1 25
Cherry Run Special	....	....	....	14
Excelsior	....	15	....	20
Manhattan	....	20	....	20
N. Y. and Alleghany	....	4 50	....	4 50
Pit Hole Creek	....	75	....	75
Rynd Farm	6	20	6	10
United Pet. Farms	5	15	5	....
United States	3 70	3 80	3 50	3 75

Miscellaneous Stocks.—Rutland marble was held at $15; 66⅔ was offered for Wells, Fargo & Co., 67 asked; Merchants' Union Exchange, $14; at second Board, $1; Wells, Fargo & Co. sold at 66¼.

Government Stocks.—The following was the range of quotations during the forenoon:

U. S. 6s, 1867	131	@ —
U. S. 6s, 1868, coupon	129	@130
U. S. 6s, coupons, 1881	109	@109¼
U. S. 5-20s, 1862, coupon	109¼	@109⅜
U. S. 5-20s, 1864, coupon	107⅜	@107⅜
U. S. 5-20s, 1865, coupon	107⅞	@108
U. S. 5-20s, 1865, coupon, new	107	@107⅛
U. S. 10-40 coupon	97¾	@ 98⅞
U. S. 7-30, 1st	106	@106⅛
" 2nd	105⅛	@105⅜
" 3rd	105⅛	@105⅜

Foreign Exchange—Is dull. Bills at 60 days on London are quoted at 107½@108½ for commercial; 108¾@109 for bankers'; do. at short sight, 109½@109¾; Paris at 60 days, 5.18¾@5.15; do. at short sight, 5.15@5.13¾; Antwerp, 5.18¾@5.17½; Swiss, 5.18¾@5.17½; Hamburg, 36@36¼; Amsterdam, 41¾@41¾; Frankfort, 40¾@41, Bremen, 78⅝@78⅞; Prussian thalers, 71¾@72⅛.

Gold.—The following were the leading quotations this forenoon:—10:00, 134⅜; 10:15, 134⅜; 10:45, 134⅜; 11:00, 134½; 12:00, 134⅝; 12:30, 134⅝; 1:00, 134½; 1:30, 134⅜; 2:00, 134⅜.

Copper.—We quote at 25½@26c. The sales have been very heavy, amounting within the past few days to 1,000,000 lbs. Efforts are made by speculators to lower the market below the cost of producing. It costs 31c. to lay down Baltimore copper and 28@31c. to lay down Lake Superior.

Iron.—Quiet with a moderate demand. Scotch $42@44. There is a large stock of American Pig No. 1, amounting to 150,000, tons, which is selling at $42@43, with few buyers; No. 2 is dull at $35@42. In the retail trade Messrs. Oothout & Co., report a dullness. There is a full stock, and no change since last week in prices, which range as follows: Swedish Iron, $170@172; common, $100@105; refined, $110@115; band, $140; rods, 3-16 to ⅜, $110@172½; scroll, ¼ to ⅞, $140@190; horseshoe, $135@140; hoop, ½ to 2, $140@215; nail rod, 9@10¼c; ovals, ¼ to 1½, $135@145.

Steel.—Best cast, 23c. per lb.; extra, 24½c. per lb.; round machinery cast, 15c.

Spelter.—Firm, with moderate demand at 9@9¼c. It costs to lay down 7c. in gold.

Lead.—Is dull. We quote it at 9¼@9½c. currency. To lay it down here costs 6⅝c. in gold.

Quicksilver—In flasks at 90c.; in lots 85c.

Petroleum—Is quiet and steady, at 16@16½c. for crude, and 25@27c. for refined, in bond.

Candles.—Adamantine common 16½@18c.

THE SLATE TRADE.

The winter weather that has prevailed during the past week has had a bad effect upon trade. We hear of a little out of town movement in Roofing Slate, but no business of any importance has yet been done. Dealers are sanguine that when spring trade does open it will do so in earnest, and that it will equal that of last season. We have no changes to make in our price list yet.

Roofing Slate.

Vermont	purple,	1st	quality, per	square	$11 50@12 50
"	"	2d	"	"	10 50@11 50
"	green,	1st	"	"	12 00@13 50
"	"	2d	"	"	11 00@12 00
"	red,	1st	"	"	13 00@14 00
"	"	2d	"	"	12 00@13 00
Pa. bl'k & d'k blue,		1st	"	"	11 00@12 00
"	"	2d	"	"	10 00@11 00

PRICES DELIVERED.

				PER SQUARE.
CHICAGO.—Vermont purple and green,		1st qual.		$14 50@15 50
"	"	"	2d "	13 50@14 50
"	red	"	1st "	15 50@16 50
"	"	"	2d "	14 50@15 50
Penn. black		"	1st "	16 00@17 00
"	"	"	2d "	15 00@16 00

BUFFALO.—$2 or $3 lower than Chicago.
CLEVELAND.—$1 higher than Buffalo.
CINCINNATI.—50 cents higher than Cleveland.
NEW ORLEANS.—$19@20 per square.
CHARLESTON, S. C.—$15@16 per square.

THE COAL TRADE.

NEW YORK, March 22, 1867.

Trade during the past week has been very quiet, with but few transactions. There is very little coal arriving, and truly none is needed at present. We hear of but few contracts being made for summer delivery, and generally the market for both Domestic and Foreign is lower. The laborers in the various districts still refuse to go to work at the reduced rates of wages, and we hear of trouble among them. The decrease of shipments over the various avenues of transit has already this season reached 250,000 tons. It is well for us that this is so. There has been a slight decline in price, and freights are offering very low.

There has been a circular issued by the Delaware & Hudson Canal Co., giving their prices of Lackawanna Coal for the coming season. We have not been favored with a copy of it by the company, and presume there is some reason for their endeavoring to keep it from us. Our quotations, notwithstanding, are taken from it.

The Scranton sale will take place on Wednesday next.

Water has been let into the Schuylkill Canal, but as yet no coal has been shipped by it. The Delaware and Romitan canal was to open on the 20th inst.

John White, of 8 Wall street, this city, has formed a partnership with Louis T. Snow, late Treasurer of the McNeal Coal Co. for the transaction of a general coal business. These gentlemen are too well known in the coal trade to need any commendation from us. We wish them the success they deserve.

Our lists of prices and freights will be found very complete in this issue.

The following is the quantity of Coal shipped over the principal Roads for the Week ending March 16, 1867:

	1866.		1867.		
	WEEK.	TOTAL.	WEEK.	TOTAL.	DECR'SE
Phil. & Reading R.R.	....	710,520	54,816	553,933	156,587
Schuylkill Canal	.....	.....	.....	.....	.....
Lehigh Val. R. R.	427,974	36,338	25,003	302,622	125,252
Lehigh Canal	....	.....	.....	.....	.....
Del & Hudson	....	.....	.....	.....	.....
Scranton North	6,678	69,273	8,223	69,643 i	2,370
Scranton South	19,866	161,877	26,249	236,215 i	74,338
Penn'a. Coal Co. Rail	.....	80 817	15,522	74,337 i	9,042
Wyoming North	.....	.....	.....	.....	.....
Wyoming South	.....	.....	.....	.....	.....
Shamokin	1,218	59,576	5,718	54,344	5,231
Trevorton	.....	.....	.....	.....	.....
Short Mountain	556	4,782	482	4,413	368
L. V. Co	439	2,143	798	5,001 i	2,858
Broad Top	.....	30,465	4,247	31,073 i	608
Williamsto'n	.....	.....	1,327	6,662 i	6,662
Total	.....	1,153,791	232,384	1238,243	.....
Cor'ng time last year	.....	.....	.....	.....	.....
Decrease	.....	.....	.....	.....	.....

Report of Coal

Transported over the Lehigh Valley Railroad, Week ending Saturday, March 16, 1867.

Where Shipped from.	Week. Tons. cwt.	Total. Tons. cwt
Total B. M. Region	3,925 14	96,014 07
Total Hazleton	1,614 15	19,213 00
Total Wyoming	10,157 05	102,667 12
Total Mahanoy	9,305 13	84,647 09
Total	25,003 07	302,662 08
Cor. week last year	36,338 02	427 974 15
Increase	....	....
Decrease	11,334 15	125,252 07
Coal delivered at M. Chunk and forwarded by rail	302,622 08	25,003 07
Coal delivered on line of P. Haven and W. Haven R.R.	....	141 03
At Junction, and at Mauch Chunk for shipment by canal	....	81 10
Grand Total	25,003 07	302,934 07
Cor. week last year	36,338 02	427,974 15
Increase	....	....
Decrease	11,334 15	125,040 08

Lehigh and Mahanoy Coal Trade,

For week ending March 16, 1867.

NAMES OF SHIPPERS.	WEEK.	TOTAL.
Trenton Coal Co	27 00	314 16
Mount Etna	.....	43 04
Mahanoy Coal Co	674 13	694 13
Delano Colliery	1,611 09	15.998 02
Glendon Coal Co	906 07	3.319 02
Rathburn, Stearns & Co	981 16	9,336 09
E. S. Silliman	1,346 13	23.833 10
McNeal Coal & Iron Co	1,767 03	12.751 15
Knickerbocker Coal Co	1,117 03	12,787 02
Thomas Coal Co.	362 07	3,551 15
Williams & Herring	272 15	2,718 15
Other shippers	.....	10 02
Total	9 087 06	85,365 15
Corresponding week last year	2,856 07	61,649 02
Increase	6,330 19	23,716 15
Decrease	.....	.....

Schuylkill Coal Trade.

BY RAILROAD, FOR WEEK ENDING MARCH 21, 1867.

St. Clair	25.990
Port Carbon	6,363
Pottsville	150
Schuylkill Haven	12,970
Auburn	1,050
Port Clinton	8,293
Total for week	54.816
Previously this year	499,117
Total	553,933

Prices of Coal by the Cargo.

[CORRECLED WEEKLY.]

At New York, March 21, 1867.

Schuylkill Red Ash, choice	$6 25@	$6 50
" Ordinary	5 00	....
" Lorberry	6 00	6 25
" Pink Ash	5 75	6 00
" White Ash Lump	5 50	5 75
" Steamboat	6 00	6 25
" Broken	5 00	7 00
" Egg	6 50	7 00
" Stove	6 50	7 00
" Chestnut	4 75	5 50
Locust Mountain White Ash	5 75	6 00
Broad " "	5 50	....
Shamokin " "	5 75	6 00
Chestnut, White or red	4 50	5 00
Lehigh White Ash Lump	6 25	6 75
" Broken	6 00	....
" Egg	6 00	....
" Stove	6 25	....
" Chestnut	5 50	....
Wilkesbarre Lump	5 50	....
" Broken & Egg	5 75	....
" Stove	6 00	....
" Chestnut	5 25	....
Despard Gas Coal	10 00	....
Westmoreland Gas Coal	10 00	....
Blossburg & Fall Creek	7 25	

At Philadelphia, March 22, 1867.

Lehigh Lump and Steamboat	$5 25@	.. ..
" Prepared	5 25	.. ..
" Chestnut	4 75	.. ..
Schuylkill Red Ash Prepared	5 00	5 50
" Chestnut	5 50	.. ..
" White Ash Lump and Steamboat	4 50	.. ..
" Broken	4 50	.. ..
" Egg and Stove	4 50	5 00
" Chestnut	3 75	4 00
Locust Mt. Lump, and Steamboat	4 50	5 00
" Broken	4 50	.. ..
" Prepared	4 50	.. ..
" Chestnut	3 75	.. ..
Lorberry Coal	5 00	.. ..
Shamokin	5 00	5 75
Franklin, (Lykens Valley)	5 50	
Broad Top	5 50	

Scranton Coal at Elizabethport, March 22, 1867.

Lump	$4 50@	— —
Steamer	5 00	— —
Grate	5 50	— —
Egg	5 25	— —
Stove	5 75	— —
Chestnut	4 50	— —

Prices for Pittston Coal at Newburgh, March 22, 1867.

Lump, per ton of 2240 lbs	$5 20	.. ..
Steamer, " " "	5 20	.. ..
Grate " " "	5 35	.. ..
Egg " " "	5 45	.. ..
Stove " "	5 70	.. ..
Chestnut "	4 40	.. ..

70 cents additional to New York.

Lackawanna at New York, March 22, 1867.

(Average contract prices for year.)

Lump	5 00	@.. ..
Steamer	5 10	@.. ..
Grate	5 30	@.. ..
Egg	5 40	@.. ..
Stove	5 55	@.. ..
Chestnut	4 60	@.. ..
Pea	4 00	@.. ..

Lehigh Coal at Elizabethport, March 22, 1867.

Lump	6 75@	.. ..
Steamboat and Broken	6 00	— —
Egg	6 00	— —
Chestnut	5 00	— —
Stove	6 50	— —

At Baltimore March 22, 1867.

Wilkesbarre & Pittston W. A., wholesale	$7 00@	$7 25
" " " retail	7 75	8 00
Lykens Valley & Sunbury R. A., wholesale	7 00	7 25
" " retail	7 75	8 00

(From the Mercantile Gazette.)

At San Francisco. Feb. 23, 1867.

Duty Bituminous $1.25. Other kinds 40 cents per ton

Australian	$12 00@	....
Do Wallsend	12 00	13 00
Pittston, ton	14 50	.. ..
Lehigh	18 00	.. ..
Cumberland, cks	....	27 00
do bulk	25 00	.. ..
Scranton	14 50	.. ..
Liverpool	13 00	.. ..
Scotch	14 00	.. ..
West Hartly	12 00	.. ..
Vancouver Island	13 00	.. ..
Bellingham Bay	10 00	.. ..
California	6 00	8 00

Coal Freights.

From Port Richmond, Philadelphia.

Albany (&towing)	$1 80@—	—	Newburg	$1 68@—	—
Alexandria	1 60	— —	Newburyport	3 75	— —
Appanoag	2 00	— —	New Haven	2 00	— —
Aspinwall	—	— —	New London	2 00	— —
Bangor	2 00	2 70	Newport	2 30	— —
Bath	3 60	— —	Newport, R. I.	2 10	— —
Baker's Landing	—	— —	New York	1 45	1 55
Bedford	—	— —	Norfolk	1 50	— —
Boston	2 50	— —	Norwalk	2 08	— —
Bridgeport	2 10	— —	Norwich & ton	2 10	— —
Bristol	1 90	— —	Pawtucket, & tow'g	2 40	— —
Calais	3 50	— —	Petersburg	2 00	— —
Cambridgeport	3 50	— —	Philadelphia	—	— —
Catskill (& tow)	2 00	— —	Portland	2 75	— —
Charleston, S. C.	2 25	— —	Portsmouth, N. H.	3 25	— —
Charlestown	3 50	— —	Providence	2 08	— —
Chelsea	2 50	— —	Provincetown	1 90	— —
Commercial Point	2 30	— —	Poughkeepsie, & t'g	1 60	— —
Davenport and dis.	2 00	— —	Port Chester	1 60	— —
Delaware City	— 80	— —	Plymouth	2 25	— —
Dighton	2 00	— —	Richmond	2 00	— —
East Greenwich	2 10	— —	Rockland	—	— —
Elizabethport	—	— —	Roxbury	3 40	— —
Fall River	2 00	— —	Saugus	2 50	— —
Fort Monroe	1 60	— —	Sing Sing	1 60	— —
Fredericksburg	1 75	— —	St. Johns (in gold)	2 00	— —
Georgetown	1 90	— —	Salem	2 50	— —
Gloucester	2 50	— —	Savannah, Ga	2 25	— —
Lynn and dis	2 60	— —	Stonington	2 25	— —
Milton	3 75	— —	Washington, D. C.	2 00	— —
Malden	3 60	— —	West Point & tow	1 70	— —
Mobile	5 10	— —	Wilmington	1 00	— —
Neponsett	3 15	— —	Williamsburg	2 87	— —
New Bedford	2 30	— —	Winterport	2 00	— —

From Newburgh.

Eastern.	River.	Co.'s	Boats.	
Boston	2 00@	Albany	60@	65
Bridgeport	1 25@	Barrytown	45@	50
Bristol	1 45@	Catskill	45@	50
Dighton	1 50@	Cold Spring	35@	40
Fall River	1 45@	Coeymans	55@	60
Mystic	1 35@	Coxsackie	50@	55
New Haven	1 25@	Fishkill Landing	25@	30
New London	1 35@	Greenbush	60@	
Newport	1 45@	Haverstraw	50@	
Norwalk	1 20@	Hudson	45@	
Norwich	1 45@	New York	70@	
Pawtucket	1 70@	Nyack	55@	
Providence	1 50@	Peekskill	45@	50
Stamford	1 25@	Poughkeepsie	30@	
Stonington	1 35@	Rhinebeck	55@	
Warren	1 50@	Saugerties	45@	50
		Sing Sing	55@	
		Stuyvesant	50@	
		Tarrytown	55@	60
		Troy	65@	
		West Point	35@	
		West Troy	65@	
		Yonkers	60@	65

From Rondout.

Eastern.	River.		
Boston	2 10@	Albany	50@
Bridgeport	1 35@	Barrytown	35@
Bristol	1 50@	Catskill	40@
Dighton	1 55@	Cold Spring	30@
Fall River	1 50@	Coeymans	50@
Mystic	1 40@	Coxsackie	45@
New Haven	1 30@	Fishkill Landing	20@
New London	1 40@	Greenbush	55@
Newport	1 50@	Haverstraw	45@
Norwalk	1 25@	Hudson	45@
Norwich	1 50@	New York	65@
Pawtucket	1 75@	Nyack	55@
Providence	1 55@	Peekskill	45@
Stamford	1 30@	Poughkeepsie	30@
Stonington	1 40@	Rhinebeck	35@
Warren	1 55@	Saugerties	45@
		Sing Sing	55@
		Stuyvesant	50@
		Tarrytown	55@
		Troy	65@
		West Point	35@
		West Troy	60@
		Yonkers	55@

From Georgetown or Alexandria.

To Philadelphia	$2 50 — —	Boston	3 50 3 75
New York	3 25 3 50		

From Elizabethport.

Albany	$1 00@—	New London	1 25@—
Boston	2 00	Newport	1 50
Bridgeport	1 00	New York	55
Fall River	1 50	Norwalk	1 00
Hartford	1 50	Norwich	1 30
Hudson	1 00	Pawtucket	1 75
Lynn	—	Portland	2 00
Middletown	1 25	Portsmouth	2 15
New Bedford	1 50	Providence	1 50
Newburyport	2 25	Salem	2 00
New Haven	1 00	Taunton	1 40

From Baltimore.

To Philadelphia	$2 50@—	Boston	3 75@—
New York	2 25		

By Railroad.

Transportation from Schuylkill Haven to Pt. Richmond	$2 08
Freight from Pt. Richmond to New York	1 60
Total	$3 68

From Port Carbon 8 cents per ton more.

Freights on Coal to Elizabethport.

L. V. R. R. from Mauch Chunk to Easton	$1 15
C. R. R. of N. J., Easton to Elizabethport	1 66
Shipping expenses at Elizabethport	2 85 30
Total	$3 11

Provincial Freights.

	Currency.
Sydney to N. Y.	$3 50
Lingan	3 75
Cow Bay	3 75
Big Glace Bay	4 50
Little "	3 75

Foreign Freights.

New Castle and Ports on Tyne	15£@ keel.
Liverpool	15s@

BOSTON STOCK MARKET.

(By Telegraph.)

Boston, March, 22, 1867.

Prices bid to-day were as follows:

Canada	50c.	Minnesota	9
Copper Falls	21	Quincy	34
Franklin	21	Cary Improvement	8⅛
Hancock	6	Rockland	..
Huron	15	Water Power	25
Isle Royal	..	Central	..

Sales at Boston Stock Exchange, March, 21.

60 shs	Bay State	7	100 shs	Rockland	9¾
300 do	Cary Imp	9	100 do	Copper Fs	22
200 do	do b.60	10¼	100 do	Eagle River	9½
200 do	Huron b.30	18	60 do	Hancock	7½
300 do	do	17½	100 do	Native	2
50 do	do b.10	17½	100 do	Pewabic b.60	17½
100 do	do	17		SECOND CALL.	
100 do	do b.30	17¼	500 do	Water Power b.30	25¾
50 do	do b.10	17	100 do	do b.10	25½
200 do	do	16¼	20 do	Franklin	22
50 do	do	16	50 do	Bay State	7
100 do	do b.60	15	300 do	Copper Fs b.60	23
100 do	do b.30	16	100 do	Rockland	9¼

SAN FRANCISCO STOCK MARKET.

Latest by Telegraph.—March 16.

Name.	Bid per foot.	Name.	Bid per foot.
Gould & Curry	465	Crown Point	825
Savage	1825	Yellow Jacket	850
Chollar-Potasi	250	Belcher	110
Ophir	225	Alpha	150
Hale and Norcross	3000	Imperial per share	205
Cal. Steam Navigation Co.	65	Cal. State Telegraph Co	31

Coal Trade Circular.

New York, March 22, 1867.

The coal trade moves along quietly. Prices open at very low rates, yet there is not much disposition shown to buy, except for immediate use, at the current quotations. The coal trade, in all its various branches, last year, was unprofitable, hence there is not much disposition shown to take hold for the present. Buyers seem disposed to await "the mowing of the waters," and will not purchase largely, till it is clearly demonstrated that "the bottom of prices" is reached. Reference to your price list of this week's quotations, one would think, would be all that was necessary to convince the most skeptical that "that time had already arrived." P.

Patent Claims.

Interesting to Miners, Millmen, Metallurgists, Oil-Men and Others.

The following claims have recently been issued from the United States Patent Office:

62,519.—Peat Machine.—Edward Atkinson, Brookline, Mass.:

First. I claim the combination of plowshares, a, cutting blades, c, and conical screw, constructed and arranged to operate substantially as and for the purpose set forth.

Second. The yielding or expanding outlet or delivery tube, arranged to operate substantially as and for the purpose set forth.

62,583.—Obtaining Oil from Paraffine, etc.—S. Lloyd Wiegand, Philadelphia, Pa.:

I claim the process of treating bituminous substances by means of the gases as hereinbefore described, or in any equivalent manner, and subsequently extracting the oil and paraffine by pressure or displacement in the manner here above set forth and described, irrespective of the particular form of the apparatus in which the operation may be conducted.

62,602.—Shaking Table for Concentrating Ores.—S. S. Buckminster, Gold Hill, Nevada.:

I claim the riffles, b, b, running diagonally across the bed of a shaking table in combination with openings, e, e, at one end and the adjustable slides, d, d, for concentrating gold and other ores, arranged and operating substantially as herein described.

62,639.—Apparatus for Amalgamating Gold and Silver.—Mathew Laflin, Chicago, Ill.:

I claim, First. A kettle with partitions dividing it into compartments in the upper part, but leaving it open at the bottom, substantially as described.

Second. The method of excluding the air from the lead by means of the covers, one or all of them, substantially as described.

Third. The improved scroll wheel, with one, two or more spiral plates, substantially as described.

Fourth. The screw and its casing, substantially as described.

Fifth. The combination of a scroll wheel and screw, substantially as described.

Sixth. The combination of a scroll wheel, screw and casing, substantially as described.

Seventh. The combination of a kettle, partitions and scroll wheel, substantially as described.

Eighth. The combination of a kettle, partitions, scroll wheel and screw, substantially as described.

Ninth. The combination of a kettle, partitions, scroll wheel, screw and casing, substantially as described.

Tenth. The combination of a kettle, partitions, and cover or covers, substantially as described.

62,679.—Manufacture of Paints and other Compounds from Bituminous Slates, etc.—William F. Patterson, Vanceburg, Ky.:

I claim the use of powdered or ground retorted slate with any of the oils, hydro-carbons, or gums, for the purpose of forming a paint, paste or plastic compound, and this I claim whether other material or colors be mixed with the retorted slate powder or paint, or whether calcined after it is retorted or not, substantially as described.

62,693.—Machine for Cutting Threads on Bolts.—Francis Schweizer, New York City.:

I claim, First. The sliding stocks, N and O, in combination with the lever, P, arranged relatively with the cutters, a and b, operating as described for the purpose specified.

Second. I claim the adjustable lever, P, which is provided with arms, d and e, substantially as and for the purpose herein shown and described.

Special Scientific Brevities.

☞ The dense atmosphere of early geologic periods was for the earth like a covering of glass, making for the lower levels a condition of things like an orchard-house in which tropical vegetation flourished, even in comparatively northern regions, as we see clearly evidenced by the distribution of organic remains in the various geological formations. Carbonic acid gas mixed with our atmosphere, would prevent, to a great extent, the loss of heat by radiation, while offering but little obstruction to the passage of the sun's heat.

☞ Haller attempted, in reading the Æneid aloud, to count the number of letters he could pronounce in a minute. Finding that he could pronounce 1,500, among which the R, according to his statement, requires ten successive contractions of the stylo-glossus, he affirms that a muscle can contract and relax itself 15,000 times in a minute; and as the time of relaxation is as long as that of contraction, each contraction requires about 1-20000 of a minute, or 1-500 of a second. From this, Haller concludes that the nervous agent requires the 1-500 of a second to go from the brain to the stylo-glossus muscle.

☞ The great forces which build up the world are slow and uniform in their action. Continents have sunken and risen, as they now sink and rise, so slowly that a single life-time is too short to detect the changes. Nature's economy has been uniform, and the convulsions, deluges and cataclysms by which some would explain geological phenomena have had no existence, or are but local accidents of no general significance.

Mineral and other On-dits.

☞ There is not another mineral substance appearing under such varied forms as carbonate of lime. The soft white chalk with which we write on a slate is chemically the same as the marble of our costly palaces, or the material out of which the sculptor creates his most valued masterpieces. France possesses some excellent kinds of marble. One of the quarries of Mollinges yields a light, violet-colored sort, and another kind yellow with white veins. The marble of Molessard is of a greenish yellow, and when polished presents a most singular aspect, a quantity of fossil remains, such as the teeth and spines of sea-urchins, shell, etc, with here and there a few crystalized laminæ, producing a most agreeable contrast. It is chiefly used for small ornaments, as the multiplicity of fossil makes it look like granite on a large extent of surface. The marble of Crans is one of the most curious; it is of a yellowish brown tint, with dark brown veins imitating the fibres of wood, with knots interspersed. That of Fratz is violet and rose-colored; that of Nantoy, yellowish, with fossils, and that of Botalier, gray or chocolate colored.

☞ A solution of gold was, in the early days of chemistry, deemed impossible. It was first found that limited proportions are soluble in sulphuric and nitric acids together, and it is now ascertained that it is easily soluble in the ethereal solutions of the perchlorides and prebromides. Hence, if gaseous hydriodic acid is transmitted into ether containing leaf gold, it will be dissolved and the acid decomposed.

☞ A block of ore weighing 104 lbs., undoubtedly the most valuable single specimen ever taken from the Comstock lead, is on its way to England. "It is almost a solid mass of silver, with a plentiful sprinkling of spangles of gold, and is worth, according to assay, $6 per pound, or $624 for the specimen."

☞ According to people who have made researches in Egypt, the ancient Egyptians were familiar with the use of iron; for it is shown by the nails in the inner door of the Theban Tomb, constructed at least 2,000 years ago.

☞ Some petroleum springs have been discovered at Wiesbach in Baden, and it is stated that the oil yielded is exactly similar to that from America.

☞ One million and eight hundred thousand ounces of gold were shipped from Australia last year.

☞ They are boring for petroleum in Italy. Why don't they try the "Isles of Greece?"

All Sorts.

☞ Heaven is thus described, from Revelations, 21st chapter 19th verse: "And he measured the city with a reed, twelve thousand furlongs. The length and height and breadth of it are equal." Twelve thousand furlongs, 7,920,000 feet, which being cubed, is 948,088,000,000,000,000,000,000 cubic feet, the half of which we will reserve for the throne of God and the Court of Heaven, half of the balance for the streets, and the remainder divided by 496, the cubic feet in the rooms 16 feet square and sixteen feet high, will be 5,743,750,000,000 rooms. We will now suppose the world always did and always will contain 900,000,000 of inhabitants, and a generation will last 33⅓ years, 1,700,000,000 every century, and that the world will stand 100,000 years—27,000,000,000,000 persons. Then suppose there were 11,230 such worlds, equal to this number of inhabitants and duration of years, then there would be a room 16 feet long, 16 feet wide, and 16 feet high for each person, and yet there would be room.

☞ The great desert of Sahara is in process of transformation into a garden. Every day new oases are produced by the multiplication of artesian wells, which supply vast quantities of water.

A FEW MORE.

[*From the Helena (Montana.) Herald, Jan. 31st, 1867.*]

The American Journal of Mining published in New York city, is one of the most reliable and valuable papers in the country.

[*From the Portage Lake (Mich.,) Gazette, March 7th, 1867.*]

The American Journal of Mining is a valuable and reliable paper, and an exchange we value highly for its fearless, yet courteous, conduction, and it seldom judges hastily in condemning any particular policy.

[*From the Sunbury (Pa.,) Herald, March 16th, 1867.*]

American Journal of Mining.—We are in receipt of this excellent illustrated weekly paper, published by Western & Co., 37 Park Row, New York. Each number contains sixteen pages of reading matter—editorials, contributions, selections, &c. As its name indicates, it is devoted to the mining interest, the development of the mineral resources of this country, &c. The mining summary in the number before us contains interesting articles on the progress of mining, and the amount obtained, in gold, silver, copper, iron, coal, &c., in Nevada, Colorado, Montana, Idaho, Minnesota, New Mexico, Canada, Mexico, Honduras, British Columbia, Michigan, California, Pennsylvania, Missouri, Illinois, &c.

SPECIAL NOTICES.

☞ The publishers of the New York *Herald of Health and Journal of Physical Culture* announce a series of attractive papers by Moses Coit Tyler, a powerful sermon by Henry Ward Beecher, and papers by Prof. Rufus King Browne upon "The Physiological Anatomy, Physiology and Pathology of Man"—all of which will be commenced in the April number. It is also to be increased in size by the addition of eight pages. Every family should have it.

☞ Oil Springs, Canada West, boasts of an excellent paper called the *Chronicle*, published and edited with ability by John Smith.

MESSRS. WILLIAM MULLANY AND GEO. W. ESSER, of the firm of Jno. White, Wholesale Coal dealer, No. 8 State street, New York City, and Mauch Chunk, Pa., retire from said firm to-day by mutual agreement.

The business of the firm will be settled by Jno. White, at No. 8 Wall street, New York City.

JOHN WHITE,
WILLIAM MULLANY,
GEO. W. ESSER.

The undersigned beg leave to announce that they have this day formed a copartnership under the style of JOHN WHITE & CO., for the purpose of conducting a General Wholesale Coal Business, at No. 8 Wall street.

JOHN WHITE,
LOUIS T. SNOW,
Late Treas. McNeal Coal & Iron Co.

New York, March 1st, 1867. 25-2.px

STEAM PUMPS.—GUILD & GARRISON, ENGINEERS AND MACHINISTS,

Manufacturers of Steam Pumps, Steam Engines, Vacuum Pans, and all the necessary connections. The Steam Pumps are of the following class, namely:

EXCELSIOR, AIR VACUUM,
BALANCE WHEEL, DOUBLE PLUNGER,
DUPLEX, WATER PROPELLOR,

and a number of other plans adopted for different purposes. These Pumps are suitable for all the various kinds of Pumping. Manufactured and for sale at the

STEAM PUMP WORKS, 55 & 57 FIRST STREET.

(on same block with the Grand and Roosevelt street Ferry Landing,) WILLIAMSBURGH, NEW YORK. 16-qp

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HUTCHINSON & LAURENCE,

No. 8 Dey Street, New York,

DEALERS in EVERY CLASS OF MACHINERY.

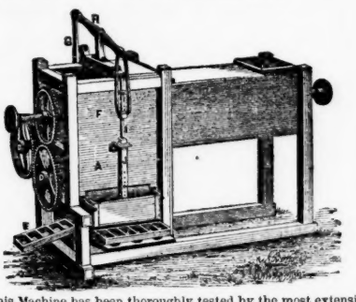
Steam Engines and Boilers, Circular Saw Mills, Mill and Plantation Machinery,

COTTON AND HAY PRESSES, COTTON GINS, IMPROVED STEAM PACKING, BELTING, TOOLS, &c.

All our Machinery is from makers of reputation and experience, and will be fully guaranteed.

☞ JUDSON'S AND OTHER IMPROVED GOVERNORS. 20:2:ps

UNIVERSAL BRICK MACHINE.



This Machine has been thoroughly tested by the most extensive Brickmakers in the country, who consider it the best. Its principal advantage is that it is a horizontal machine, which makes it superior over any other for making the best Front or Common Brick. Its construction is very simple and is not liable to get out of order. All machines are warranted. A full sized machine can be seen in operation by applying at the office. For circular, with full description of its many other advantages, address FREEMAN JACOBIE, No. 254 Broadway, New York, or JOHN BRIDGFORD, Albany, N. Y.

TO INVENTORS AND OTHERS.—Notice is hereby given that the members of a Commission, acting under the authority of the Secretary of the Treasury, will meet in the City of New York at the Office of the Supervising Inspector of Steamboats, No. 23 Pine street, on the SECOND MONDAY in April proximo, for the purpose of examining and testing the merits of such inventions of a life-saving character as may be brought before them.

Said Inventions will embrace Boilers of Steam-engines, Anti-incrustators, Safety-valves, Steam-gauges, Water-gauges, Steering Apparatus, &c., &., &c.

Inventors may appear in person before the Commission, for the purpose of explaining their Inventions; but no expenses will be allowed under any circumstances.

H. McCULLOCH,
Secretary of the Treasury

WASHINGTON, D. C., March 13, 1867. 26.2t

STEAM BOILERS.

The Harrison Boiler

HAS NO SUPERIOR AS A STEAM GENERATOR.

It is a Great Economizer in Fuel and is Absolutely Safe from Destructive Explosion.

It gives less trouble and occupies less space than ordinary boilers, and it is its own super-heater. It is easily enlarged to any requisite power, and has no limit of power to which it is adaptable, always maintaining its unit of serength.

☞ CIRCULARS SENT FREE and information furnished at

BRANCH OFFICE 119 BROADWAY,

ROOMS 9 and 10. J. B. HYDE, Agent.
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FOR SALE.—A large, select, and valuable collection of Minerals, Ores, Fossils, Shells, etc., embracing trilobites, ammonites, precious stones, and ornamental specimens, suitable for the cabinet of a college or institute. Address J. M. COVINGTON, office of the Scientific American, 37 Park Row, New York. 26.4t

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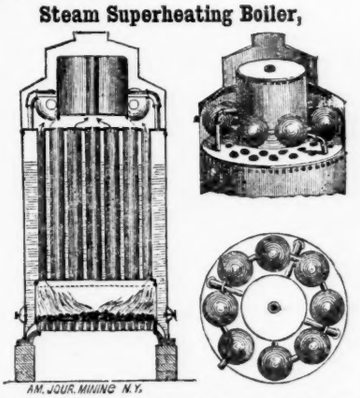
DAVIS' PATENT

Steam Superheating Boiler,



AM. JOUR. MINING N.Y.

Manufactured by the Duplex Steam Boiler Manufacturing Company. (Organized under the laws of the State of New York, March, 1866.) Long Island City, Long Island. (Opposite 34th Street Ferry, New York.) Branch Office, at Willard & Millward's, 284 Water Street, New York.

H. S. ANABLE, President. J. H. LIVINGSTON, Sec'y & Treas.
R. W. DAVIS, Gen. Superintendent.

Two 75 horsepower of these boilers can be seen in operation at the "Tribune office."

☞ Send for Illustrated Circular. 25:2:xm

WILLARD & MILLWARD,

DEALERS IN

NEW AND SECOND-HAND

STEAM ENGINES, MACHINERY, &c.,

No. 284 WATER STREET,

NEW YORK.

ALSO,

Sole Agents for the Sale of the DAVIS PATENT DUPLEX SUPERHEATING BOILER. vol2:12:ps

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The Colliery Proprietors of South Lancashire and Cheshire,

Being anxious to encourage the development of

COAL CUTTING BY MACHINERY,

Have determined to offer

THREE PRIZES

Namely,

$500, $200 and $100 for the 1st, 2d, 3d Best Machine

Respectively, which, in the opinion of the Committee appointed for that purpose, shall be most suitable to the requirements of the trade, and the inventor of which shall comply with the regulations laid down by the Committee.

A copy of the regulations, and further particulars, will be furnished on application to the undersigned.

All Competitors must furnish the Machines intended for Trial, in Lancashire, not later than the 1st November, 1867.

MASKELL WM. PEACE.
Wigan, Law Clerk to the Association.

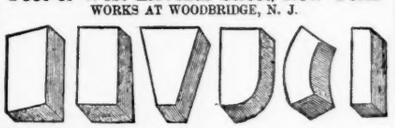
Feb. 11, 1867. 25:2:4t

SALAMANDER WORKS,

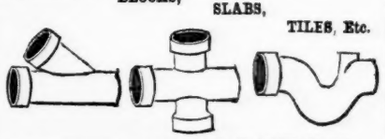
OFFICE AND DEPOT,

Foot of West Eleventh Street, New York.

WORKS AT WOODBRIDGE, N. J.



FIRE-BRICKS, BLOCKS, SLABS, TILES, Etc.



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For Draining, Sewering, Conducting Water, Gas, etc. 22 2-xm

TURBINE WATER WHEELS

The REYNOLDS PATENT embodies the progressive spirit of the age. Simplicity, Economy, Durability, Accessibility, all combined. The only Turbine that exceis Overshots. Awarded the Gold Medal by American Institute.

Shafting, Gearing and Pulleys furnished for all kinds of Mills, made on Mechanical principles, under my personal supervision, having had long experience. Circulars sent free.

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25:2:np No. 96 LIBERTY STREET, N. Y.

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12,153 ACRES OF LAND FOR SALE in the Madoc Gold Regions of Canada West.

Apply to the Proprietor, T. D. LEDYARD,
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Adjoining Earle's Hotel.

MANUFACTURERS AND DEALERS IN

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FOR STEAM, WATER, AND GAS.

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High and Low Pressure Steam Heating Apparatus applied to

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STORER'S PATENT LUBRICATORS,

for supplying lubricating matter in bulk to the cylinders of Marine and Stationery Steam Engines, Steam Pumps, &c.

Coils for Breweries, Distilleries, Soap Factories, &c., &c.

STEAM PUMPS.

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For Use in Europe, China, etc. Also Make

Transfers of Money to California & Oregon, by Telegraph.

22:2:x INTEREST ALLOWED ON DEPOSITS.

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SIMPLE, DURABLE, RELIABLE,

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LEVI P. DODGE, Newburgh, N. Y.

May 13, 1862.

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Gold and Silver Bullion, Jewelry, Foreign Coins, etc., received on deposit in amounts not less than $100 in value, and returns made, as soon as assayed, in coin or fine bars, at the option of the depositor, and on the same conditions as the U. S. Mint.

Bullion sent through the agency of Express Companies should be accompanied by explicit instructions as to return of proceeds

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11-2-ps SUPERINTENDENT.

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DEALER IN

PARAFFINE MACHINERY OIL.

From Pure Cannel Coal, adapted to all classes of Stationary Machinery, Locomotive Engines, Railroad Cars, Woolen Factories, Cotton Spindles, Sewing Machines, &c.

Paraffine Wax and Paraffine Wax Candles. Also the Best Brands of Burning Oils. All Oils guaranteed to answer the purpose for which they are recommended.

PETELER'S PORTABLE RAILROAD.—The object of this Portable Railroad is manifold, and its application almost unlimited. It can be laid, on Common Roads, rugged or marshy places, for making Railroad Beds, Common Roads, Excavations, Improving and Cultivating Land, etc., etc., by its use, a great deal of time and money will be saved. For Circulars apply to the Patentee. A. PETELER, New Brighton,

26:4t Richmond County, N. Y.

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ANALYTICAL AND CONSULTING CHEMIST,
AND
MINING GEOLOGIST,
No. 138 WALNUT STREET, PHILADELPHIA.
Assays and Analyses of Ores, Soils. etc.,
Executed with Promptness and Accuracy.
EXAMINATION OF, AND REPORTS ON, MINERAL LANDS AND MINES FURNISHED ON APPLICATION. 1-22-qp

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Assays of Gold and Silver, Analyses of Ores, Minerals, Furnace products, Guano, Soda Ash, &c., &c
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Jan. 1, 1867. 18:12qp

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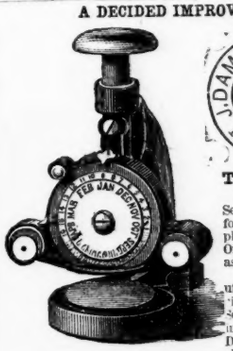

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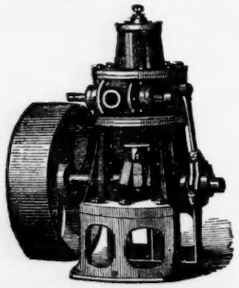

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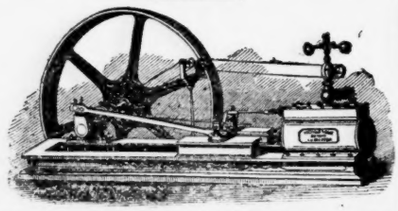

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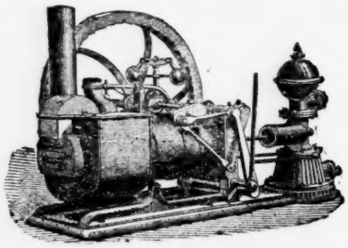

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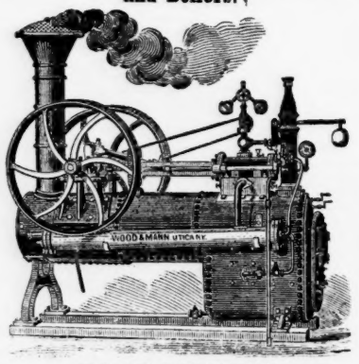

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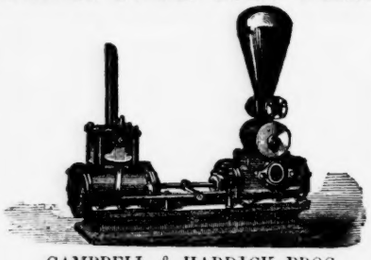

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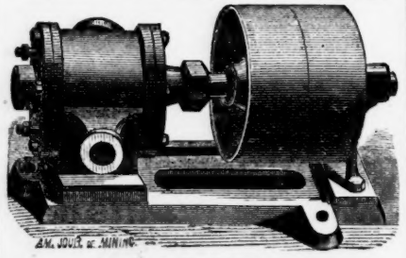

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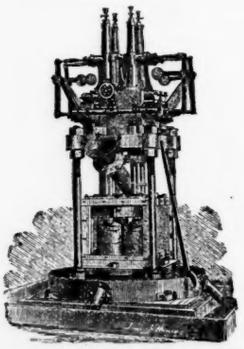

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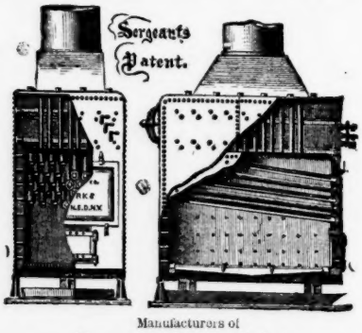

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